THE
CHEMISTRY OF THE PHARMACOPŒIA
ACCORDING TO MODERN THEORIES.

BY JOHN CARGILL BROUGH.

I.

> "No chemist will need to be reminded that, during the last quarter of a century, the science of chemistry has undergone a profound transformation; attended, during its accomplishment, by struggles so convulsive, as to represent what, in political parlance, would be appropriately termed a Revolution.
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> "Amidst continual accessions of fact, so rapid, so voluminous, and so heterogeneous, as almost to exceed the grasp of any single mind, chemical science has been in travail, so to speak, with new laws and principles of co-ordination, engendered, perhaps, partly by the sheer force of their own deeply-felt necessity, but partly also, and mainly due, to the powerful initiative impulsion of a few philosophical master minds.
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> "Based on the concurrent examination of the volumetric and ponderal combining ratios of certain typical elements, and on the recognition, in their standard combinations, of a few well-marked structural types, these principles have introduced into the domain of chemistry the pregnant idea of *classification*—the conception of a series of natural *groups*, resembling the genera of the biological sciences, and culminating in the establishment of an orderly *system*, where before there had seemed to be but a chaos of disconnected facts.
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> "Under the influence of these and certain other cognate ideas, new views have arisen as to the constitution and chemical properties of matter; a reformed chemical notation has thence, of necessity ensued; and the structural relations, previously unsuspected, have disclosed identity of parentage, in compounds till then deemed utterly diverse."—DR. HOFMANN, "*Modern Chemistry.*"

In the present series of articles I propose to examine the chemical nomenclature and notation of the British Pharmacopœia by the light of those brilliant conceptions which have so completely altered the aspect of chemistry. The system of notation based upon those views is now adopted by the leading scientific chemists of every country, and is specially associated with the names of Laurent, Gerhardt, Cannizzaro, Williamson, Hofmann, Odling, Wurtz, and Kekulé.

Though I believe that the new notation will eventually be accepted as the exclusive basis of instruction in chemistry, I do not recommend its introduction into the Pharmacopœia. Scientific names and formulæ founded upon theoretical views of the atomic constitution of bodies, appear to me to be out of place in a work intended simply to direct and control practice. Holding this opinion I prefer the unscientific but obvious pharmaceutic names by which the chlorides and iodides of mercury are now distinguished to the corresponding names in the London Pharmacopœia. The chemical knowledge required by the practical pharmaceutist can only be obtained from systematic treatises and the formulæ given in such works should accord with the definitions of the Pharmacopœia. If the compilers of the national work would merely state the percentage composition of each chemical compound instead of attempting to supply its rational formula this desirable accordance might be realized. Thus the plain statement that 73.8 parts of mercury
and 26.2 parts of chlorine
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are contained in 100.0 parts of corrosive sublimate, would agree with any formula by which the atomic constitution of this compound might be represented.

I have made the chemistry of the Pharmacopœia the basis of my humble attempt to elucidate the general principles of the new chemical philosophy, because the symbolic formulæ given in the national work fairly represent the older or dualistic system of notation and can be readily referred to by the readers of this journal.*

THE ELEMENTARY BODIES MENTIONED IN THE BRITISH PHARMACOPŒIA, WITH THEIR SYMBOLS, ATOMIC WEIGHTS, ETC.

Univalent Elements. MONADS.	Symbols.	Atomic Weights	Normal Compounds with Monads.
Hydrogen .	H	1	$H\,Cl$ Hydrochloric Acid.
Chlorine ..	Cl	35·5	$Br\,K$ Potassic bromide.
Bromine ..	Br	80	
Iodine	I	127	$I\,K$ Potassic iodide.
Lithium ..	Li	7	$Li\,Cl$ Lithic chloride.*
Sodium ..	Na	23	$Na\,Cl$ Sodic chloride.
Potassium.	K	39	$K\,Cl$ Potassic chloride.*
Silver	Ag	108	$Ag\,Cl$ Argentic chloride.*
Copper ..	Cu	63·5	$Cu\,Cl$ or $Cu_2\,Cl_2$ Cuprous chloride.* $Cu\,Cl_2$ Cupric chloride.*
Mercury ..	Hg	200	$Hg\,Cl$ or $Hg_2\,Cl_2$ Mercurous chloride (Calomel). $Hg\,Cl_2$ Mercuric chloride (Corrosive sublimate).
Bivalent Elements. DYADS.			
Oxygen ..	O	16	$O\,H_2$ Water.
Sulphur ..	S	32	$S\,H_2$ Hydric sulphide.
Magnesium	Mg	24	$MgCl_2$ Magnesic chloride.*
Zinc......	Zn	65	$Zn\,Cl_2$ Zinc chloride.
Calcium ..	Ca	40	$Ca\,Cl_2$ Calcic chloride.
Barium ..	Ba	137	$Ba\,Cl_2$ Barytic chloride.
Lead	Pb	207	$Pb\,Cl_2$ Plumbic chloride.*
Chromium	Cr	52·5	$Cr\,Cl_2$ Chromous chloride.* $Cr\,Cl_3$ or $Cr_2\,Cl_6$ Chromic chloride.*
Manganese	Mn	55	$MnCl_2$ Manganous chloride.* $MnCl_3$ or $Mn_2\,Cl_6$ Manganic chloride.*
Iron......	Fe	56	$Fe\,I_2$ Ferrous iodide. $Fe\,Cl_3$ or $Fe_2\,Cl_6$ Ferric chloride.
Trivalent Elements. TRIADS.			
Nitrogen..	N	14	$N\,H_3$ Ammonia.
Phosphorus	P	31	$P\,H_3$ Hydric phosphide.*
Arsenic ..	As	75	$As\,H_3$ Hydric arsenide.*
Antimony .	Sb	122	$Sb\,Cl_3$ Trichloride of antimony.
Bismuth ..	Bi	210	$Bi\,Cl_3$ Trichloride of bismuth.*
Boron	B	11	$B\,Cl_3$ Boric chloride.*
Aluminium	Al	27·5	$Al\,Cl_3$ Aluminic chloride.*
Gold	Au	196·5	$Au\,Cl_3$ Auric chloride.
Quadrivalent Elements. TETRADS.			
Carbon ..	C	12	$C\,H_4$ Marsh gas.*
Tin	Sn	118	$Sn\,Cl_4$ Stannic chloride.*
Platinum..	Pt	197	$Pt\,Cl_4$ Platinic chloride.

NOTE.—Copper, mercury, chromium, manganese, and iron are usually classed with the bivalent elements or dyads. The compound marked (*) are not mentioned in the Pharmacopœia.

ATOMIC WEIGHTS. Thirty-one indecomposable bodies or elements are mentioned in the British Pharmacopœia, and as many more are known at the present time. These elements unite with one another in certain *definite proportions* to form compounds; each particular compound being always constituted of the same elements combined in the same proportion. The smallest proportion by weight of an element that is found to enter into combination is expressed by a particular number, the combining proportion of hydrogen being taken as the standard of comparison, or unity. Thus the proportional number of hydrogen being 1, that of chlorine is 35.5, and that of sodium 23; in other words 35.5 parts of chlorine will combine with 1 part of hydrogen or with 23 parts of sodium.

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* The materials for this series of articles have been derived from the following sources:—Watts's *Dictionary of Chemistry*. The articles on Atomic Weights, Acids, Chemical Affinity, Classification, Equivalents, &c. By Professors Odling and Foster, and the learned Editor.
Hofmann's *Introduction to Modern Chemistry*.
Williamson's *Chemistry for Students*.
Odling's unfinished *Manual of Chemistry*.
Wurtz's *Introduction to Chemical Philosophy*, in the "Chemical News."

When the same elements form several compounds, the relative weights of the elements in each compound can be indicated by the proportional numbers or by *multiples* of these numbers. Thus there are two compounds of mercury and chlorine, namely, calomel and corrosive sublimate, the former containing 200 parts of mercury to 35.5 parts of chlorine, and the latter 200 parts of mercury to *twice* 35.5, or 71, parts of chlorine. Again in the five known compounds of nitrogen and oxygen we find 14, or *twice* 14 parts of the former element combined with 16, *twice* 16, *three times* 16 or *five times* 16 parts of the latter.

To account for the phenomena of chemical combination in definite and multiple proportions, Dalton propounded his *Atomic Theory* which connects the proportional numbers assigned to the elements with the relative weights of their atoms. According to this theory the ultimate atoms of the several elements possess certain invariable relative weights and unite with one another to form chemical compounds, atom to atom, one atom to two atoms, two to three, etc. Thus, the smallest conceivable portion of calomel is formed by the union of an atom of mercury and an atom of chlorine, the relative weights of the two atoms being 200 and 35.5; whilst the smallest conceivable portion of corrosive sublimate consists of an atom of mercury and *two* atoms of chlorine. The atomic theory is now universally accepted as the groundwork of chemical philosophy, and the proportional numbers of the elements are called their *atomic weights*. Various considerations are involved in the determination of the atomic weight of a body. The combining proportion of the body in a particular compound may be ascertained by analysis, but this proportion is not necessarily the *minimum* combining proportion or chemical atom. Thus, in marsh-gas 1 part of hydrogen is combined with 3 parts of carbon, but the atomic weight now assigned to carbon is 12. Consequently the smallest conceivable portion of marsh-gas is supposed to contain one atom of carbon united to three atoms of hydrogen. More than half the atomic weights given in the Pharmacopœia have been doubled by the modern chemists for cogent reasons which I shall explain in future articles. The new atomic weights of the pharmaceutic elements are given in the table on the preceding page. The classification of the elements will be explained in another section.

The terms "Atom" and "Molecule."—The *chemical atom* may be defined as the smallest proportional weight of an *elementary body* which is capable of existing in *combination*. The group of atoms which is believed to constitute the smallest proportional weight of a *compound* capable of existing by itself, is called its *molecule*. Thus, the molecule of hydrochloric acid is supposed to contain only 1 atom of hydrogen and 1 atom of chlorine, and as the proportional weights of these two atoms are represented by 1 and 35·5, the molecular weight of hydrochloric is 36·5. Now, by a faultless chain of reasoning modern chemists have been led to the conception that elementary bodies, when in a free or uncombined state have a molecular structure comparable to that of hydrochloric acid, in other words, that their atoms unite with one another in pairs. Thus, the smallest proportional weight of chlorine capable of existing in a *free state*, is 71. This remarkable deduction will occupy our attention by and by, at present I simply wish to impress upon the reader the distinction between the atom of an element and its molecule. The former is the smallest proportion that can exist in combination, and the latter the smallest proportion that can exist by itself.

Chemical Nomenclature.—The nomenclature proposed by Lavoisier, Guyton de Morveau, Berthollet, and Fourcroy, in 1787, is the foundation of the language employed by all scientific chemists at the present day. The chemical names in the Pharmacopœia are gradually giving place to the more accurate and systematic designations adopted by Professor Williamson and other reformers. As the modern names of all the chemical compounds mentioned in the Pharmacopœia will be given in future articles I will now confine my attention to the leading features of the improved nomenclature.

The simplest compounds of sulphur, called "sulphurets" in the Pharmacopœia, are now generally termed *sulphides*, just as the simplest compounds of chlorine, bromine, iodine, hydrogen, and oxygen, are named respectively *chlorides*, *bromides*, *iodides*, *hydrides*, and *oxides*.

The specific distinction indicating the second element in a binary compound is formed by prefixing an adjective generally ending in *-ic* to the generic name, or by adding the name of the second constituent preceded by *of*. Thus, the compounds of chlorine with sodium and silver respectively are called *sodic chloride* or *chloride of sodium*, and *argentic chloride* or *chloride of silver*. In the Pharmacopœia the longer names containing the preposition *of* are exclusively employed, but the leading modern chemists generally adopt the shorter and more euphonious appellations.

Corresponding names are applied to the oxygen salts. Thus, *argentic nitrate* is synonymous with *nitrate of silver*, *plumbic acetate* with *acetate of lead*, *cupric sulphate* with *sulphate of copper*. The names of the oxides of the alkali-metals and alkaline-earth metals—"lithia," "potash," "soda," "lime," "baryta," "magnesia," etc.—have given place to the names of the metals in the modern nomenclature of the salts. Thus, the old "nitrate of potash" has become *nitrate of potassium*, or *potassic nitrate*, "carbonate of lime" *carbonate of calcium*, or *calcic carbonate*, "acetate of soda" *acetate of sodium*, or *sodic acetate*. These new names, it will be observed, correspond with the accepted names for the salts of the heavy metals, such as *nitrate of copper*, *carbonate of lead*, and *acetate of silver*. When the names "sulphate of *soda*," "sulphate of *baryta*," etc., were introduced, they were strictly analogous to the names "sulphate of *copper*," "sulphate of *lead*," etc.; for soda and baryta, as well as copper and lead, were then regarded as simple bodies. But when Davy proved that the alkalies and earths were metallic oxides, the former names ceased to be in accordance with the latter. The new names have been adopted, for sake of uniformity, even by writers who reject the modern views and still cling to the dogma that the oxygen salts *contain* metallic oxides. Such clumsy names as "nitrate of *oxide of silver*" and "sulphate of *oxide of copper*," which correspond with "nitrate of *potash*" and "sulphate of *lime*," have never been in general use.

By an extension of the use of the Lavoisierian terminations *ic* and *ous*, formerly restricted to the specific names of acids and oxides, modern chemists distinguish other compounds formed by the union of the same elements in different proportions. Thus the two chlorides of mercury, "corrosive sublimate" and "calomel," are termed respectively *mercuric chloride* and *mercurous chloride*; the two sulphates of iron, *ferric sulphate* and *ferrous sulphate*.

When Greek or Latin numerals are used as prefixes by modern chemists they must always be taken as multiples of the constituents to whose names they are attached; thus, *hydric dioxide* is an oxide containing twice as much oxygen as *hydric oxide*, but *dicupric oxide* is an oxide containing twice as much copper as *cupric oxide*.

Symbolic Formulæ and Equations.—Each symbol given in the table of Elementary Bodies represents one atom or minimum combining proportion of the body to which it is assigned. Thus, Cl stands for an atom of chlorine weighing 35·5, O for an atom of oxygen weighing 16, N for an atom of nitrogen weighing 14—the weight of H, or the atom of hydrogen, being the unit. Multiple proportions are indicated by small figures placed on the right of the symbols; thus Cl_2 signifies two atoms or combining proportions of chlorine, weighing together 71. Compound bodies are represented by the symbols of their constituents. Thus, HCl denotes a molecule of hydrochloric acid, composed of one atom of hydrogen and one atom of chlorine; H_2O denotes a molecule of water formed by the union of two atoms of hydrogen with one atom of oxygen; HNO_3 represents a molecule of nitric acid formed by one atom of hydrogen, one atom of nitrogen, and three atoms of oxygen. Any multiple of a compound may be expressed by placing a *large* figure to the left of the formula—thus, $5HNO_3$ signifies five molecules of nitric acid, or five times HNO_3. The same thing may often be more plainly indicated by enclosing the formula in brackets, and placing a small figure outside to right, thus $(HNO_3)_5$. Formulæ of complex bodies are sometimes divided into parts by means of periods and brackets, to facilitate comparison between them and those denoting analogous compounds. Thus, ammonic nitrate is generally written $(NH_4)\,NO_3$, or $NH_4.NO_3$, instead of $N_2H_4O_3$, so that its relation to the metallic nitrates KNO_3, $NaNO_3$, etc., may be at once perceived. A full-point is now commonly used to cut off the symbols representing the water of crystallization in the formula of a metallic salt; thus, crystallized cupric sulphate, containing five molecules of water, which can be readily driven off by heat, is denoted by the formula $CuSO_4.5H_2O$. The sign of addition + is used instead of the point in the formulæ of the British Pharmacopœia, but this sign is never thus employed to express combination by the chemists of the new school.

To represent chemical changes by means of symbols, the formulæ of the reacting bodies are written on one side of the sign = and the formulæ of the products on the other, the several terms on each side being separated by the sign +. Thus, the equation $KNO_3+H_2SO_4=HKSO_4+HNO_3$, signifies that a molecule of potassic nitrate and a molecule of sulphuric acid are required to produce a molecule of hydropotassic sulphate and a molecule of nitric acid. The equation, in fact, represents the reaction in the Pharmacopœia process for preparing nitric acid. It must be borne in mind that in all chemical equations the sign = merely represents *equality in weight*, and the sign + the *mixture* of the two substances between whose formulæ it is placed.

ENGLISH PHARMACEUTICAL WEIGHTS AND MEASURES FROM A FRENCH POINT OF VIEW.*

Professor Guibourt, the learned Secretary of the Superior School of Pharmacy of Paris, has presented to the notice of pharmaceutists some observations on the medicinal weights of Europe as compared with metrical weights, these observations forming the substance of a discourse, inaugurating the session of 1865-6. The Professor devotes a considerable space to a revision of the systems prevalent in this country, and points out their anomalies and inconsistencies with no little acumen. As the entire address is to lengthy to transfer to our pages, we subjoin a few extracts which we think interesting and instructive.

After a review of the weights and measures which figured in the earlier pharmacopœias of the country, the author observes :

From what precedes, we find that from the year 1826 to the year 1836, there existed in England three systems of weights, to which chemists added the wine-pint or *octarius*, these four systems giving rise to

an ounce avoirdupois .	weighing	28·35	grammes.
an ounce troy	,,	31·10	,,
a fluid ounce	,,	29·57	,,
a dram avoirdupois . .	,,	1·77	,,
an apothecary's dram .	,,	3·89	,,
a fluid dram	,,	3·70	,,

Has this confusion been remedied ? By no means. In 1836 the College of Physicians of London having brought out a new pharmacopœia, an Order in Council of William IV notifies to all Apothecaries and others whose business it is to compound medicines, that they may only do so after the manner prescribed in the said work and conformably to the weights and measures therein appointed.

In this work, the weights adopted are those called *Apothecaries*'; as to measures, the College substituted for the gallon and wine-pint previously used, the imperial gallon and imperial pint prescribed by the Act of George IV. But as this pint contained 5/4ths of an avoirdupois pound, instead of dividing it into 16 ounces, as the wine-pint and the pound avoidupois, they divided it into 20 ounces, so as to render the fluid ounce equal to the ounce avoirdupois. The final result of this modification was to substitute for a fluid ounce of 29·57 grammes, one of 28·37 grammes; for a fluid dram of 3·70 grammes, one of 3·54 grammes, and so forth. But the foundation of this confusion, as mentioned in the *Pharmacopœia Reformata* of 1744, and in Dr. Christison's *Dispensatory* of 1818,—that is to say, the two systems of pounds and ounces, —still remained.

What should have been done, it will be asked, to suppress these sources of error ? We answer, either to have taken the avoirdupois pound as originally established, with its subdivisions of 16 ounces, 128 drams, 384 scruples, and 9216 grains, and to have regulated both weights and measures by this scale,—or, as we think would have been preferable, to have resolutely abolished the avordupois weights, and to have demanded for Great Britain either a single pound of twelve ounce troy, or a single pound of sixteen ounces troy. There would then have been for all but one pound, one dram, one grain; and the pound-measure divided as the pound-weight, would not have given rise to the use in the same shop of two ounces, two drams, etc., of different values.

Instead of this, what have the authors of the British Pharmacopœia of 1864 done? They have, in the first place, admitted the impossibility of any alteration of the imperial pint and its subdivisions, as laid down by the Order in Council of 1836 :—and then they have adopted as the medicinal pound, the avoirdupois pound of 7000 grains troy. But not being able to divide this pound into ounces, drams, and scruples, containing exact numbers of grains, they have wished to be able to suppress the three intermediate denominations and to set up a ponderal system composed only of a pound and grains. But recoiling doubtless before the practical impossibility of such an attempt, they have admitted an ounce of 437·5 grains. They have, however, suppressed in their scale of weights (though not in that of measures), the dram and the scruple, for a reason which ought to have caused the disappearance of the ounce likewise,—that is, because it is impossible for these unities to be at once exact multiples of the grain and integral parts of the pound. Even with this forced acceptation of the ounce, we find in the British Pharmacopœia such formulæ as these :

Page 256. *Infusion of Linseed.*

Take of

Linseed	160 grains.
Fresh Liquorice Root . . .	60 ,,
Boiling Distilled Water . .	10 fluid ounces.

Page 291. *Mucilage of Tragacanth.*

Take of

Tragacanth	100 grains.
Boiling Distilled Water . .	10 fluid ounces

Page 260. *Compound Tincture of Lavender.*

Take of

Oil of Lavender	1½ fluid drams.
,, Rosemary	10 minims.
Cinnamon	150 grains.
Nutmeg	150 ,,
Red Sandal-wood	300 ,,
Rectified Spirit	2 pints.

Page 237. *Citrate of Iron and Quinia.*

Take of

Solution of Persulphate of Iron	3 fluid ounces.
Sulphate of Iron	1 ounce.
Solution of Soda	36 fluid ounces.
Citric Acid	2¼ ounces.
Sulphate of Quinia	380 grains, etc. etc.

Attempt now, to weigh 160 grains of Linseed, 60 grains of Liquorice, 100 grains of Tragacanth, 160 grains of Cinnamon, 300 grains of Red Sandal-wood, and 380 grains of Sulphate of Quinine, without using weights which are multiples of the grain ;—and if in doing so it is not only convenient, but even necessary to employ such multiples, why should they have suppressed the names of *dram* and *scruple*, because they have adopted a pound which does not comport with these weights ?

At page 255 is the following formula for

Compound Infusion of Gentian.

Take of

Gentian	¼ ounce.
Bitter-orange Peel . . .	30 grains.
Corianders	30 ,,
Proof Spirit	2 fluid ounces.
Distilled Water	8 ,,

Here you order 30 grains troy of orange peel and as much of corianders : in spite of your abolition of troy weight, the chemist will use his old half-dram which represents exactly the required amount ; and next you order a quarter of an ounce, which is equal to 109·375 grains, to obtain which a special weight has to be constructed to square with your avoirdupois pound !

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I cannot quit this subject without expressing my disapproval of the use of *measures* which are ordered to be used for all liquids, mercury excepted, and for which the authors of the British Pharmacopœia manifest a strong predilection. In my opinion no instrument is comparable to a balance for determining exactly the quantity of a liquid, and I highly approve the directions of the later Prussian pharmacopœias in not allowing the measuring of liquids. The Bavarian Pharmacopœia is also to be commended in only permitting the measurement of liquids in the case of those which are of but slight medicinal activity.

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* Extracted from *Pharmaceutical Journal.*

THE PORK PLAGUE.*

During the months of November and December of the preceding year the town of Hedersleben in the Hartz was the scene of a terrible outbreak of a trichinous disease, resulting in the death of some eighty people, and the serious illness of many others. The causes of this fearful scourge have been inquired into as far as existing circumstances permit (death having removed the most valuable witnesses), and there is reason to believe that it arose from the consumption in the form of raw ham and sausage of the flesh of a pig infected with *trichina spiralis*. The pig was slaughtered about the last week in October, but as the pork-butcher and his wife and family are amongst the victims, nothing more can be ascertained about the earlier history or condition of the animal.

During the first week that the flesh was eaten no one appears to have died; but before a fortnight had elapsed two cases of death occurred, and at the post-mortem of the second of these a great number of trichinæ were found in the intestinal canal. The people then began to die in numbers, and their bodies were found to swarm in every part, intestines, muscles, etc., with these parasites. The symptoms of the outbreak at Hedersleben resemble in all respects those of the Hettstädt epidemic of thirty years ago; on that occasion no deaths took place during the first week, but, after violent diarrhœa and sickness, death ensued, on the average, on the twelfth day after eating the uncooked infected meat, and on the fourteenth day after the consumption of the pork partially cooked. The case is, however, recorded of the Burgomaster of Hettstädt, in which the partaking of trichinous sausage proved fatal after the short lapse of thirty-six hours. The trichinæ have pre-eminently their habitat in the muscular tissue; it was found at Hedersleben that those persons who had eaten the muscular parts of the pork were one and all affected, whilst those who had merely ate the kidneys and fatty parts, the lard for instance, were uninjured.

The trichina cannot live at the temperature of boiling water, so that thorough cooking of suspected pork is all that is required to render it harmless. An illustration of this occurred at Hedersleben. A woman who bought some sausages became seriously ill through eating some of them, whilst her husband, for whom she fried the remainder, was uninjured. As meat, however, is usually boiled or roasted in pieces of some considerable size, it may easily happen that the interior may not reach the required temperature. Professor Hertwig made some very conclusive experiments in proof of this. He placed two pieces of trichinous pork, each about the size of one's thumb, in cold water, and then raised it to the boiling point. One piece he boiled twenty-two minutes, the other twenty-five; and he found that the first piece still contained living trichinæ, whilst in the second piece they were all dead. The violence of the outbreaks at Hettstädt and Hedersleben must undoubtedly be ascribed to the *penchant* of the inhabitants for raw or insufficiently cooked meat

It has been erroneously stated by some that it is difficult to find trichinæ in infected meat. This is not the case: a little experience enables one to detect the position of one with the naked eye, and with a little practice in the use of the microscope, it can be focussed in a few minutes, and it is by no means an unpleasant object, with its slow and graceful gyrations; it lives, moreover, for several weeks, and even months, in this manner, and if at rest, merely requires a little careful warming to set it once more coiling upon itself.

Professor Hertwig, in some interesting researches, showed with what astonishing rapidity these parasites propagate. He examined four young porkers by making a small incision, and, examining the flesh removed under the microscope, it was perfectly free from trichinæ. To the first he gave one Loth (about sixteen grammes) of trichinous meat; to the second, two; to the third, three; and to the fourth, four; and then watched the effects. They became ill the same day; diarrhœa and a general stiffness of the limbs were the principal symptoms; and one of them died. In all, not only the one which died, but likewise in the other three, not thousands but millions of trichinæ were present. Before they were killed, small excisions were made from time to time, and microscopical examination showed the presence of these parasite worms; even in eight days their flesh was, so to speak, saturated with them.

The original source of these creatures is still unknown. There seems to be no doubt that the human system only derives them from the flesh of pigs. But how do pigs get them? Various theories have been advanced to account for their presence. Somewhat similar worms have been found by various observers in the beetroot, when diseased, and amongst animals in the mole and in the earthworm respectively, but later investigations have disproved their identity. The *trichina spiralis* is, however, not peculiar to the pig, but is likewise the parasite of the cat, the rat, and probably the mouse. That the pig and the cat should become infected by the lower animals is easily to be accounted for; Dr. Cohnheim, of Berlin, when inquiring into the outbreak at Hedersleben, was fortunate enough to see a pig seize a rat and eat it. This, however, does not explain the existence of the trichinæ in the four above-mentioned animals, and Virchow has given it as his opinion that they may probably have become infected by eating the trichinous evacuations of their kind, of one another, or of man. This theory gains support in the case of man and the pig, from the fact that the trichinous epidemic seems in some districts to recur at certain intervals of time, which could be readily explained, if one assumed such a cycle from man to the pig, and from the pig to the man; the rat might likewise, in some cases, act as carrier between the two.

Strenuous measures, both on the part of the State, in some parts of Germany, and on the part of the butchers themselves, have been taken to prevent the sale of trichinous pork. In the larger towns every beast that is killed is submitted to microscopic investigation. In the town of Brunswick, the examination has been compulsory ever since 1863, and is conducted by medical men appointed for the purpose. Between December, 1863, and December, 1865, 30,000 pigs were examined, and but two of these contained trichinæ.

In the town of Blankenburg, in Brunswick, out of 700 pigs that were tested, four were found trichinous. The preventive means adopted at Nordhausen are entirely voluntary, and of an interesting kind. The pork-butchers have formed a society, each member of which is to be in possession of a good microscope, and must have some practice in using it. For this purpose they engaged a medical man to give them a course of instruction in microscopical manipulation, and they have since given notice that anyone who shall prove any member of the society to sell trichinous pork shall receive the sum of fifty thalers.

In Berlin, during the year 1865, there were many cases of greater or less severity of trichinous disease, only one of which, that of a girl in May last, proved fatal.

The Victims of Bleeding.—The lancet is said to have helped another distinguished man out of this world. M. Foucher, the accomplished French barrister, having been struck with paralysis or apoplexy while in the act of pleading in the Cours de Cassation, was removed to the Judge's chamber, while doctors were sought in all directions. When the doctor arrived he forthwith bled the apparently dying man. M. Foucher never rallied, and died before midnight. Of course, he might have died if no lancet had taken away his life-blood. But how long, we cannot help asking, will it be before the denunciation of bleeding in all cases of exhaustion, which is now universal among the best English doctors, is taken up generally by the medical profession abroad? It is only a few years since the lancet did its work with Cavour, and the practice of spring and autumnal bleeding still prevails in Italy to a wonderful extent. It is said to be a regular rule in many convents, and the most delicate women are "let blood" in anticipation of their accouchements. Here, in England, even the agricultural mind has happily become anti-phlebotomist, and only the most ignorant farmers bleed their horses and oxen every spring and fall.—*Pall Mall Gazette.*

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* Extracted from *The Reader* of Feb. 10.

THE MONTH

YORK CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the York Chemists' Association was held on the evening of Friday, the 2nd inst., at Beale's King's Arms Hotel, when the President, Mr. George Dennis, occupied the chair.

The Honorary Secretary, Mr. J. Brown, having read the Report for the past year, a resolution was proposed, and unanimously agreed to, that it be received, adopted, and entered upon the minutes of the Society.

The balance-sheet and accounts, which were produced and read over by Mr. Thomas Cooper, the Treasurer, showed a surplus of £4 3s. 6d. to be carried to the account of the present year.

Votes of thanks to the Chairman, Treasurer, and Secretary, for their exertions on behalf of the members, were passed by the meeting, and appropriately acknowledged.

The Committee and Auditors for this year were then appointed, and the annual dinner was arranged to be held on the 27th inst., at the King's Arms Hotel. Annexed is a copy of the Report.

"FIRST ANNUAL REPORT.

"In this the first Report of the York Chemists' Association to the members of the trade, the Executive have pleasure in congratulating the members upon the success that has attended their exertions in the promotion of unity and harmony, as well as the influence they have brought to bear on the political action of the Pharmaceutical and United Societies. At the first meeting, held on 20th January 1865, to discuss the merits of the Pharmacy and Chemists and Druggists' Bills, after due and careful consideration, neither of them were approved, but certain clauses and amendments were suggested and recommended for adoption to the rival societies, whereby joint action might be secured, and an Act of Incorporation obtained from Parliament for the government of the trade, with the approbation and concurrence of all who are interested in it. A full account of this meeting, with the resolutions adopted thereat, was sent to the *Pharmaceutical Journal* and the Chemist and Druggist for publication, such publications having apparently had considerable influence on the opinions of the trade in all parts of the country; and the Executive have much pleasure in reporting that the editor of the Chemist and Druggist on several occasions has commended the action of the York chemists, and recommended other towns to follow so worthy an example.

"A copy of the Report and resolutions was sent by your Honorary Secretary to Mr. Westhead and Col. Smyth, our late representatives in Parliament, together with a letter strongly urging them to support our views in the event of either Bill being pressed through Parliament during the Session. From both gentlemen replies were received, stating it would give them pleasure to attend to the interests of our important trade, should their services be required.

"Your Executive were not content with these precautions; but in order the more directly to gain for their opinions the consideration of the Government, it was thought advisable also to write to the Home Secretary, Sir George Grey, on the subject. Accordingly, the Report and resolutions were sent, together with a letter containing additional reasons for the adoption of our views (which letter was also published in the Chemist and Druggist), and your Executive have reason to believe that these communications had considerable influence ultimately on the decision arrived at by the Special Committee. In order to use every constitutional means for the furtherance of our objects, a petition to Parliament was subsequently presented from this city by Colonel Smyth, signed by ninety-two chemists and chemists' assistants, praying that in any enactment affecting so respectable a body, equal privileges be given, and that the right of self-government be maintained, and stating that no governing body or society could have our confidence who ignored these principles.

"Your Executive gave every attention during the continuance of the Session to all measures affecting the interests of chemists and druggists, and, as is well known, all legislative action by the two Societies proved abortive. In the month of March Sir Fitzroy Kelly introduced the Pharmacy Bill, and Sir John Shelley the Chemists and Druggists' Bill, and both measures, after the second reading, were referred to a Select Committee. This Committee commenced its labours on the 5th May, taking evidence in support of the Pharmacy Bill, until the 19th June, when it presented a Report to the House recommending Government to introduce a Bill in the new Parliament founded on certain resolutions and recommendations that were almost identical with our own.

"After the experience of last Session, your Executive have little hope of a successful measure being passed until the two Societies unite and agree to a scheme of government satisfactory to the majority of the trade, and which, at the same time, will be beneficial to the interests of the public.

"In conclusion, it may be as well to notice that the dinner held on the 8th March last, and which was well attended, was so successful, that the Executive most cordially recommend the members to have another annual festivity in order to cement and strengthen the good feeling that meetings of that nature have a tendency to promote. It is recommended that the Committee and Auditors be elected at this annual meeting.

"Annexed is a statement of accounts for the past year, showing a balance in hand of £4 3s. 6d., which it is hoped will prove satisfactory.

"Receipts.

"To Subscriptions, 1865	£15 11 0

"Expenditure.

"To Printing, Stationery, Postages, Meetings, Petition, Annual Dinner, &c.	£11 7 6
Balance in hand	4 3 6
	£15 11 0

(Signed) "George Dennis, Chairman.
"Thomas Cooper, Treasurer.
"John Brown, Secretary.

"York, *Feb. 2nd*, 1866."

LAW AND POLICE.

A SAD SEQUEL TO THE CASE OF JONES *v.* FAY.

On the 28th ult. Mrs. Anne Fay applied to Mr. Ellison, at the Worship-street Police-court, for advice and assistance. The applicant said she was a widow when she married her present husband, to whom she brought several hundred pounds. She succeeded to more, all of which was invested in his business. He was a chemist and druggist at Kingsland, and was doing well until August last, when an action was brought against him by a man, or the representatives of a man, for whom he was alleged to have prescribed, and who sued him at the Croydon Assizes. The jury gave £100 damages, but the costs in addition were so great that he could not pay them, and a few mornings afterwards he parted from her and her five children, the youngest of whom is only a twelvemonth old. He left their lodgings in his usual manner, as he said to go to the City. He did not come back at night, and she went to the shop to look for him. She then found he had sold everything off in the morning, and from that day (five months ago) to this she had never seen or been able to hear anything of him. She had sold her jewellery, clothing, and everything she could for support; and on Christmas-day, Boxing-day, and a day before, she and her children were entirely without food. They were now living with her sister in the Grange-road, Dalston, but her sister had so distressed herself for them that she was nearly as badly off as they were. She was known to the Rev. Mr. Gordon, incumbent of Dalston, and the Rev. James Jackson, of St. Sepulchre's. The wife of the former had been very kind to her. She and her children were now in such destitution that she should be grateful for any advice or assistance the magistrate could give her.

Her statement was confirmed by a gentleman connected with the City Corporation, and by a letter from the Rev. Mr. Gordon.

Mr. Ellison said the only advice he could give her was to make application to the parish authorities for aid; but, as far as immediate exigencies were concerned, he would present her with 30s., and if any kind person would lend her further assistance he would do so too.

The applicant burst into tears, and said she could not apply to the parish.

PHOTOGRAPHIC APPARATUS.—COLLIS v. LEOGE.

This action was tried at the Court of Queen's Bench on the 5th inst.

The plaintiff, a maker of scientific apparatus, carrying on business in Charlotte-street, Barnsbury, sued the defendant, who is a photographer, for £42 4s. 2d., alleged to be due in respect of photographic apparatus supplied to him by the plaintiff. The defence was that some of the goods were of inferior quality, and that the plaintiff had agreed to give the defendant credit for a certain period, which had not expired when the writ was issued.

The jury found a verdict for the plaintiff—Damages £10.

The Judge, however, certified for costs.

VALUATION OF A DRUGGIST'S BUSINESS.—DOUGLAS v. BREW.

THIS case, which came before Mr. Justice Shee and a common jury at the close of last month, was an action to recover compensation for a misrepresentation as to the value of the business of a chemist and druggist, at 50, High-street, Islington, by reason of which misrepresentation the plaintiff alleged that he had been induced to purchase the business, which had not turned out according to the representation.

The defence was that the plaintiff had neglected the business, and had frequently not opened the shop for hours, and that customers could not get in to obtain what they wanted.

A great number of witnesses were called on both sides, and the trial extended over three days. The jury eventually gave a verdict for the plaintiff—Damages £40.

CHLORODYNE IN A NEW LIGHT.

In the Divorce Court, on the 31st inst., a wife's petition for judicial separation on the ground of cruelty was heard. The respondent denied the acts of violence imputed to him, but he admitted that he had been in the constant habit of taking chlorodyne as a remedy for dyspepsia, and that when he was under the influence of that drug he had no control over his actions, and could not even remember what he said or did. This absurd plea did not prevent the Court decreeing judicial separation.

BAD MONEY IN THE TILL.—CLAPTON v. GOODGER.

This was an action for slander, tried before Mr. Justice Shee and a common jury, in the Bail Court on the 19th ult. Mr. Huddleston, Q.C., and Mr. Prentice, were counsel for the plaintiff; Mr. Eyre Lloyd for the defendant.

The plaintiff is a young lady only seventeen years of age. She was an apprentice to Howell and James, where her aunt, a Mrs. Smith, was forewoman. The defendant is a chemist carrying on business near Howell and James's. In November last the plaintiff was going out to make some purchases. A Miss Gilbert, another young lady of the establishment, asked her to purchase for her a pair of gloves at Marshall and Snelgrove's, and she gave her a half-sovereign. Two other young ladies also gave some commissions. The plaintiff went to Marshall and Snelgrove's and purchased the gloves, taking in change for the half-sovereign two half-crowns, a florin, and 3d. She then called at the defendant's and bought a pot of cold cream and a cake of soap. She gave one of the half crowns and received 1s. 6d. in exchange. In a few days afterwards the defendant accidentally met one of the young ladies of Howell and James's, and told her that one of their young women had been at his shop and bought a pot of cold cream and had given a bad half-crown. It turned out, also, that the defendant had gone to Howell and James's and had accused the plaintiff of having passed a bad crown piece. The plaintiff denied it. Afterwards, Mr. Hicks, one of the partners, accompanied the plaintiff to the defendant's shop, when the defendant said the plaintiff had passed a bad crown-piece to his young man, who had not discovered it till after she had left the shop. The defendant produced a bad crown-piece, and said he should take a summons out against the plaintiff for passing a bad crown-piece. He asked her name, and she gave it. The defendant, however, did not take out a summons, and the defendant was then called upon to apologize, but he refused to do so.

The Counsel for the plaintiff said he would take an ample apology, and if that were refused he would press for very heavy damages.

The Judge threw out a hint.

Defendant's Counsel said the defendant never made an accusation.

Mr. Huddleston said he would not be satisfied with less than a most ample apology and the costs of the plaintiff.

Defendant's Counsel said he refused to give it.

In cross-examination, the plaintiff said that the defendant said he had no accusation to make against the plaintiff, and he wished to test the accuracy of his young men. She had not passed a crown-piece at all. She was remaining in the service until her character was cleared. The defendant decidedly said he would take out a summons against the plaintiff.

Other witnesses deposed that they were present, and heard the defendant say the plaintiff had passed a bad crown-piece, and that he should take out a summons against her. Some of the witnesses stated that the defendant said he should take out a summons to test the truth of his young man.

Mr. Justice Shee asked if it was not possible to come to some arrangement.

Mr. Lloyd said there was some mistake. The defendant had made no imputation.

Mr. Justice Shee said the evidence was not that there had been a mistake, but it appeared more like a charge. Supposing it to be proved that he had made no imputation, it was proved that he said he should take out a summons. It might be that the jury did not agree with him.

The jury said they did agree with his Lordship.

Mr. Justice Shee said it seemed to him that the defendant had the opportunity of behaving as a gentleman and of getting out of the difficulty.

Mr. Lloyd said that the defendant had never made any imputation that the plaintiff had passed a bad crown-piece.

Mr. Justice Shee said he thought the proposition a very fair and liberal one.

Mr. Lloyd said his Lordship had not heard the defendant's case.

Mr. Justice Shee said he had only interfered out of regard for the interests of the defendant, who he had no doubt was a respectable man. Of course it was a very annoying thing to find bad money in one's till.

Mr. Lloyd.—I think your Lordship ought to hear the whole of this case.

Mr. Justice Shee.—I think so too.

Mr. Lloyd, after some time, said his friend and himself had come to a satisfactory arrangement. There would be a verdict for the plaintiff for 40s. The defendant wished to say that he never intended to make any imputation against the plaintiff.

The Judge said it was understood that the young lady left the court without the slightest imputation upon her character.

Mr. Lloyd.—Certainly.

The Judge said he thought the young ladies and all the persons at Howell and James's had acted with the utmost propriety. He did not say a word about the defendant. He must have relied upon what some one else had told him. The jury would find a verdict for the plaintiff for 40s.

The jury wished to know if that would carry costs.

The Judge said it would.

Verdict for the plaintiff for 40s.

A CATTLE-DOCTOR'S BILL.—WALL v. SNEWIN.

This case, tried at the Court of Common Pleas, on the 1st inst., was an action brought by the plaintiff as a cattle doctor to recover £66, the balance of his charges for work and labour and medicines supplied to the defendant, a milkman, in endeavouring to cure his cows of the rinderpest, giving the defendant credit for a payment of £5 on account. The defendant pleaded that he never was indebted.

The plaintiff described himself as a practical and analytical chemist by profession, who had travelled through South America, and India, and had in South America become acquainted with the virtues of a plant which grew on the coast and on the banks of the Parana river, which he called

Corta Parana. Hearing that the defendant, a milkman at Clapton, had lost 26 cows by rinderpest he called upon him, and represented that he had an infallible cure for the disease. He told the defendant's wife "that he had been a doctor in India for many years, and had cured whole herds of cows as well as black people." The defendant said if he could cure his cows he would be the first man he had known who could cure rinderpest, and added, "Do your best, and I will pay you." He accordingly undertook the treatment of the defendant's cows. The four cows first treated soon rallied, and became, he believed, convalescent. They were taken away from the paddock, and he did not know what became of them. He supposed they were sent to market when in a state of convalescence. He knew that one cow after his treatment had given eight quarts of milk in a day. He had in this manner treated 28 cows. The medicine he had administered was of two kinds, and consisted of tincture of lavender, paregoric elixir, tincture of cardamoms, castor oil, Glauber's salts, aloes, dragon's blood, and his compound tincture of corta parana. The defendant had expressed his satisfaction at the results of his treatment, and had given him £5 on account. The medicines had cost him (the plaintiff) £25, and he kept a stock of the corta parana since 1822. His charge was £3 each for the five cows, which had been very bad, and £2 each for the rest, making a total of £71, which the defendant had refused to pay.

For the defendant, the plaintiff was subject to a severe cross-examination. He said he had been a pupil to all the chemists in London, and had some 40 years ago studied with a Mr. Gleghouse at Glasgow, and had attended Sir Humphrey Davy's lectures in 1807. Since then he had been in all parts of the world, and was now living in a charitable institution called the Refuge, at Clapton, being in poverty. He had never offered to cure the defendant's cows for nothing to get his name up. He was not one of the "No cure no pay gentlemen." He did not know that three out of the four cows in the paddock had died under his treatment, and that the fourth had been killed "to save its life." His charges were 7s. 8d. a dose for carminatives, which were administered morning and evening to 28 cows. He could only mention one chemist where he had bought drugs to the amount of £1 5s. The defendant, his wife, and daughter, and servants were then called, and, according to their evidence, the defendant had yielded to the plaintiff's importunities and offers to cure his cattle for nothing to get his name up, and he had been allowed to try. He had attended them two or three days, five or six times altogether, when he called on the defendant and said the medicines were very expensive, when defendant said, "I suppose you want some money," and gave him £5 to cover his expenses, and he then expressed his thanks, and said it was more than he expected. After getting the £5, he went off for several days and never came near the cattle, which died off, many of them after his medicines, in a perfectly corrupt condition, and had to be buried, and some of them were sent to Whitechapel market as soon as they were taken ill. This evidence exciting some sensation in the court, the defendant observed, "Well, they were good cows, only just taken." He had no cow after it was taken ill that gave more than a half pint of milk, and that he milked on the ground and threw away. He had never offered to give the plaintiff £20, but when he came back, after being away, he told him to leave his premises and take his rubbishing medicines with him, as it had killed all his cows that had taken it. All his cows had died or had to be slaughtered. The plaintiff had repeatedly said to the defendant's servants that he should make no charge if he could not cure the cows. This was the defendant's case, the learned counsel for the defendant designating the plaintiff's claim as a most impudent attempt at extortion.

His lordship (Mr. Justice Byles) having summed up the evidence, the Jury almost immediately found a verdict for the defendant.

THE INGREDIENTS OF CATSUP.

At the Southwark Police-court, on the 1st inst., Dr. Parker, the medical officer of Bermondsey vestry, accompanied by Mr. Rushton, the sanitary inspector, attended before Mr. Woolrych to apply for summonses against a tradesman carrying on business in Bermondsey, for having on his premises a large quantity of salted bullocks' liver which was putrid, yet intended for human consumption.

Dr. Parker said, that in consequence of information he received, he went to a field in the Upper Grange-road, where he found a large shed in the occupation of Mr. Hope. It was used as a manufactory of catsup and jams. On entering the place he found a large cask containing about 2 cwt. of bullocks' liver and very thick brine. He examined it, and found some of it putrid, but it was so strongly impregnated with brine that he could hardly detect its condition. The foreman told him it was to be used in the manufacture of catsup, and he saw some in the course of manufacture.

Mr. Woolrych.—I never heard of such a thing before. I always thought that catsup was made from mushrooms and walnuts. Was any portion of it fit for human consumption?

Witness.—I don't think it was.

Mr. Woolrych.—Where is this catsup sold?

Witness.—I cannot tell; but I received a large placard on which was printed, "Hope and Co., manufacturers of genuine Leicestershire catsup and jams, Upper Grange-road, Bermondsey." I don't know where it is sold, but I saw large quantities in bottles and casks ready for removal.

Mr. Giles Rushton, the Inspector of Nuisances for Bermondsey, confirmed this evidence. Mr. Hope, the proprietor, came into the manufactory while he was inspecting it, and told him he was going to use the liver in the manufacture of catsup. Witness saw some under preparation and in the course of manufacture.

Mr. Woolrych asked if Mr. Hope told him what other ingredients were used in his manufacture of catsup?

Witness replied that he showed him some burnt malt under preparation, which he said was used to colour the catsup. Witness said he had some of the salted liver outside the court if his worship would like to inspect it.

Mr. Woolrych left the court for that purpose, and on his return said that he could not grant a summons under the circumstances. The Act of Parliament set forth that the party must be before him on a specific charge before he could deal with such a case.

Dr. Parker said that he should mention the circumstances to the vestry, and ulterior proceedings would no doubt be taken.

DISTRESSING SUICIDE BY POISON.

On the 23rd inst. Mr. William Payne, Coroner for the City, held an inquiry at the Golden Axe Tavern, St. Mary-axe, relative to the death of Miss Sarah Marks, aged 43 years. Jacob Hartman, 19, Bevis Marks, a boarding-house keeper, said that the deceased came to live at his place a short time back; she had been, witness understood, in business as a linendraper, but had failed. Until the previous Wednesday, however, she was in good health and spirits, but on that day she heard of the loss of the *London*, on board of which was her sister, aged 23, and she then became quite frantic. She said it was she who had persuaded her sister to go to Australia. She said, "I am my sister's murderess." The witness, seeing the distress of mind she was in, sent for her aunt, who came and stopped some time with her. She then got much more calm. On the Saturday evening she went out, and upon her return asked that she might be allowed to remain in the room later than usual on the following Sunday morning. On the Sunday she did not make her appearance, and witness became alarmed, and towards midday he called in the police, and had her door broken open. She was then found on the floor quite dead. Police-constable Thomas Overton, 66, city force, said that when he was called in he found the deceased's room door locked on the inside; he forced it open, and found her dead body lying on the floor. On the table was a bottle labelled "Poison—Essential Oil of Bitter Almonds," and nearly empty. He also found a paper on which deceased had written that she had "destroyed her life, as she was the cause of her sister's death by persuading her to go to Melbourne in the *London*." Mr. F. Gordon Brown, surgeon, said that deceased had been a long time dead when her body was found. She had died from poison. She had taken a large quantity of essential oil of almonds. Only a little of the poison was left in the bottle. Mr. Lawrence Levy, 36, Upper East Smithfield, said that the deceased and her sister were his nieces by marriage. The younger one was persuaded by the deceased to go to Melbourne, because she had a brother and sister there who were doing very well. The deceased was driven out of her mind by grief when she heard of the fate of the *London*, but she had advised her sister to go to Australia entirely through kindness. The coroner having remarked upon the melancholy circumstances of the case, the jury returned a verdict "That the deceased committed suicide by taking poison while of unsound mind."

GOSSIP.

Mr. Flooks, chemist, late of Wells, Somerset, has commenced business at Above Bar-street, Southampton.

Last week an inquest was held on the body of a Mrs. Sevin, who destroyed herself by swallowing a large quantity of spirits of ammonia.

Dr. Dauglish, whose name is identified with the manufacture of aërated bread, died at Great Malvern last month.

The sudden and great demand for vaccine lymph from its supposed power of protecting cattle from the rinderpest, led to the manufacture of a factitious article composed of collodion and croton oil or tartar emetic. The eruption produced by this stuff, though very unlike that resulting from vaccination, deceived many unfortunate cattle owners. The wicked fraud was exposed in a letter published by our great daily contemporary.

Messrs. R. and J. R. Sturton will continue the business of the late firm of John Sturton and Co., chemists and druggists, Peterborough.

Miss Woods, the daughter of Mr. Woods, druggist, High Street, Worcester, was found drowned in the canal at Droitwich, on the 18th ult. The verdict of the jury at the inquest was "The deceased drowned herself, being at the time of unsound mind."

The creditors of Joseph Burnett, chemist, Ashted Row, Birmingham, have agreed to accept a composition of five shillings in the pound.

Mr. C. S. Jones will discharge all claims against the late firm of Jones and Percival, apothecaries, Chichester.

All claims on the estate of the late Mr. James Cooper, druggist, 61, Bootham, Lock, must be sent to Messrs. Wood, solicitors, Lock, by May 1st, 1866.

Thomas Doidge Wills, druggist, Barnstaple, has made an assignment of his estate. Trustee, Mr. Henry Dene, banker, Barnstaple.

All claims on the estate of the late Mr. S. Day, druggist, Walsall, must be sent before April 30th to Deakin and Dent, solicitors, Wolverhampton.

The creditors of Llewellyn Goulstone, chemist and druggist, Oxford Street, Mountain Ash, Glamorganshire, have agreed to accept a composition of 5s. in the pound, payable by two instalments. Trustee, Mr. John G. Goulstone, Belle Vue, Shrewsbury.

James Stather, druggist, Frogmore Street, Bristol, has executed a deed of assignment. Trustee, Mr. John S. Eveleigh, accountant, Bristol.

Joshua James Eyre, chemist and druggist, Manchester, has made an assignment of his estate and effects. Trustee, Mr. John Kerr, acconntant, Manchester.

Thomas Theodore Thompson, chemist, 11, Richmond Street, Walworth, Surrey, has arranged to pay his creditors a composition of 1s. in the pound.

Mr. William Collier, jun., will continue, on his own account, the business of the late firm of Collier and Co., manufacturing chemists, Sheffield.

The workpeople employed at the Ellesmere Patent Lint Company's Works, Runcorn, had their annual treat on Monday, the 15th ult. The large new drying shed was tastefully decorated for the occasion with flags and evergreens. The entertainment was a happy combination of tea and supper, and about eighty persons were gratified at the tables. The chair was taken by Mr. Armitage, of Altringham, the principal of the Company. Mr. S. Shaw Brown, the originator of the festival, spared no pains to make it a perfect success, and was actively supported by Mr. Boughey, of Manchester, Mr. and Mrs. Kenright, of Runcorn, and other visitors. After tea, Mr. Armitage addressed the workpeople, and gave them some good advice in a friendly spirit. Mr. S. Shaw Brown, the manager, in a most interesting speech, gave a short history of the lint trade and the works at Runcorn. The results of the application of steam power to the manufacture of lint were illustrated by many striking facts. It appears that with the aid of the new patent machinery, now employed at Runcorn, one young woman can make 3,000 yards of beautiful lint in a week, or more than eighty women would have made twenty years ago; and she gets better wages from her farthing a pound, than the hand-worker got from her 8d. a pound. After tea, dancing commenced, and was kept up until the early morning.

GAZETTE.

BANKRUPTS.

Beech, Ann and **Jos.**, Atherstone, druggists.
Bunnell, James, Liverpool, veterinary surgeon.
Evans, Evan, Gelligaer, chemist.
Hanagan, Patrick Cole, Rochdale, chemist.
Rogers, Henry James, Dartmouth, licentiate of the Royal College of Physicians of Edinburgh.
Service, C. A., Kingswood-place, South Lambeth, chemist.
Touzeau, James Frederick, Edmonton, chemist.
Walkinshaw, W. B. M D., Prince's-st., Cavendish-sq., surgeon dentist.
Woodson, Joseph, late of Leeds, chemist.

PARTNERSHIPS DISSOLVED.

Clark and **Glasse**, Portsmouth, soda-water manufacturers.
Collier, W., and Co., Sheffield, manufacturing chemists.
Goodchild, J., and **Brown, G. D.**, Ealing, surgeons.
Sturton, J. R., and J. R., Peterborough, chemists.

MINERAL ETHER.

Although the commercial products furnished by coal tar are already so numerous, there appears to be scarcely any limit to the articles of utility obtainable from this abundant mine of wealth. One of the many hydrocarbons derived from this substance, and described as a "new spirit," has been recently introduced under the title of "Mineral Ether," or "Parisian Glove Cleaner."

It is a limpid colourless, liquid, having a rather agreeable odour, suggestive of that of benzol, but entirely free from the disagreeable tarry smell peculiar to that liquid. It quickly volatilizes, leaving little or no perceptible odour, and is readily miscible with spirit and ether, but immiscible with water. Its boiling point is said to be 170° F, which is several degrees lower than that of benzol, and we are given to understand that its remarkable solvent properties enable it to readily and effectually remove grease, wax, and stains upon silk cloth, ribbon, velvet, and all kinds of fabrics, even those of the most delicate colours.

It reminds us greatly of some of the hydrocarbons obtainable by fractional distillation from American petroleum, and it is certainly superior to many of the benzols now offered to the public as detergents.

PERSISTENT BUBBLES.

M. Plateau, some time ago, invented a solution which forms bubbles of great beauty, and strong enough to remain for hours without bursting, when shielded from draughts. The solution is prepared from pure oleate of soda, glycerine, and distilled water, and can now be obtained from Mr. W. Ladd, the well-known philosophical-instrument maker. The bubbles may be blown with a clean tobacco-pipe; but for a few shillings Mr. Ladd supplies a more suitable glass instrument, a wire ring for supporting the bubbles, india-rubber tubing for inflating bubbles with gas, and a glass capsule for holding the solution. In the *Intellectual Observer* for December last, Mr. John Broughton describes a variety of beautiful experiments which may be readily performed with these fairy-like globes.

OAKEY'S SILVERSMITHS' SOAP.

We have much pleasure in calling the attention of our readers to this new preparation for polishing silver and plated goods, plate glass, etc. It is made up into cakes like ordinary toilet soap, and though its chief ingredient is evidently of an earthy nature, it is perfectly free from grit. We have given this soap a fair trial, and can strongly recommend it as an excellent domestic article.

THE CHEMIST AND DRUGGIST

LONDON, FEBRUARY 15, 1866.

CORRESPONDENCE.—All communications should be addressed to the Editor, at 24, BOW-LANE, E.C.; those intended for publication should be accompanied by the real names and addresses of the writers.

QUERIES.—The Editor cannot undertake to attend to those which are anonymous, or to send answers through the post.

SUBSCRIPTION.—The subscription to the CHEMIST AND DRUGGIST is 5s. per annum, payable in advance. Should a receipt be required, a stamped envelope must be sent with the amount of subscription. A specimen number may be had upon application, price 6d.

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SCALE OF CHARGES FOR ADVERTISEMENTS.

	£	s.	d.
One Page	4	0	0
Half ditto	2	10	0
Quarter ditto	1	10	0

Special Rates for Wrapper, and the pages preceding and following literary matter.

The above Scale of Charges will be subject to a discount of 10 per cent. upon Six, and 20 per cent. upon Twelve insertions—*if paid in advance.*

Seven Lines and under	0	4	6
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The CHEMIST AND DRUGGIST is published on the Fifteenth of every month, except when that date falls upon a Sunday, when it is published on the preceding day. It is regularly supplied direct to the Members of the Trade in Great Britain, Ireland, the Colonies, and all the principal seats of foreign commerce.

Everything intended for insertion in the current Month must be sent in before the 10th, except Employers' and Assistants' Advertisements, which will be received until 9 A.M. on the morning previous to publication.

LEGISLATION FOR CHEMISTS AND DRUGGISTS.

THE first Annual Report of the York Chemists' Association recals the events of the past year, and leads us to reflect on the present position of the important question of legislation for chemists and druggists.

The Select Committee of the House of Commons to whom the Chemists and Druggists' Bills were referred, passed the following resolutions :—

"1st. That no compulsory examination or registration under the Bills referred to the Committee should be required of persons now carrying on the trade of chemists and druggists.

"2nd. That the Bill do provide that no other person shall, after a day to be fixed by the Bill, sell certain dangerous drugs, to be scheduled in the Bill, unless he shall be examined and registered."

The first resolution was opposed to the first clause of the Pharmaceutical Society's Bill, and likewise to the 15th clause of the United Society's Bill, the compulsory registration of all chemists and druggists being an essential feature in each measure. The second resolution of the Select Committee implied their approval of the principle upon which the United Society's Bill was based, and in the Report to the House the Committee state plainly that they decided against the principal provision of the Pharmaceutical Society's Bill, namely, that which restricted its application to persons keeping open shop for the compounding of prescriptions. After passing several unpublished clauses of a Bill based on the above resolutions, the Committee were met by the difficulty of "providing for the first formation of the Council to which the duty of regulating the examination of chemists and druggists was to be entrusted." Not being able to overcome this difficulty, they passed the following resolution :—

"That inasmuch as there appears to be little prospect of any satisfactory termination of the labours of the Committee in the present Session, it is desirable that the evidence, so far as it has been already taken, and the Proceedings of the Committee, be reported to the House, accompanied by a recommendation that the Government should, early in the new Parliament, bring in a Bill on the subjects referred to the committee."

The committee conclude their Report by expressing their opinion—that it is not expedient to proceed further with either of the Bills that were committed to them.

Now if the resolutions of the Select Committee be adopted by the House, we shall get a Government measure which may not, and most likely will not, meet the requirements of the great body of chemists and druggists. How will the registering and examining body or bodies be constituted? Will the examiners be chemists or medical men? To what extent will the principle of self-government be admitted? These are questions which chemists should take into consideration, before expressing their unqualified approval of the proceedings of the Select Committee.

We confess that we should rejoice to see the whole strength of the trade applied to the propulsion of a good bill through Parliament. We want an Act under which the distinction between "druggists" and "pharmaceutists" would gradually die out, not one that would tend to perpetuate it. We do not recommend any union between "outsiders" and "insiders," that would be degrading to the former. While we wish for fraternity we claim liberty and equality.

The Report just issued by the York Chemists' Association will remind our readers that we freely expressed our desire for united action before the bills were brought into Parliament. Our opinions have lately been strangely misrepresented, but if any reader will take the trouble to refer to our articles we think he must admit that we have kept to a straight line of policy.

MR. BETTS'S PATENT.

The following extract from an able article entitled "Patents and Patentees" in *Temple Bar* cannot fail to interest our readers :—

"Our Patent Laws need great amendment. Nothing could prove this more pointedly than the present case of 'Betts's Patent Metallic Capsule,' which promises an exuberant crop of ruinous lawsuits against a host of innocent tradesmen, and even the 'consumers' of the article.

"The reader doubtless knows that bottles of spirits, etc., are provided with a metallic cap over the cork or stopper. This 'invention' is claimed by Mr. Betts, who, in his specification of the year 1849, describes it as consisting of two parts: 1st, the manufacture of a new material—lead in thin strips, coated on one or both of its surfaces with tin, the two metals being made to cohere by previous pressure exercised by a rolling-mill or other contrivance; and 2ndly, the manufacture of capsules from such materials. It appears, however, that in 1804 a patent was granted to one Thomas Dobbs for 'plating or uniting lead with tin,' the plan pursued being that of pressing the two metals together, the conjoined plates or ingots being passed 'between the rollers of a flatting or rolling-mill with what is technically called a hard pinch, so as to make the metals cohere.' The object was to secure flexibility and cheapness by the lead, and 'wholesomeness' in the use by means of the tin surface.

"In the existence of such a patent on the records, we might suppose that after the expiry of its term the process would become common property. But this is not the law. It appears that unless it can be shown that Dobbs actually exercised his privileges, it is just the same as if his patent had never existed. Dobbs is gone to his long account; the users of his patent are not to be found; and so, according to our legal maxim, 'if things do not appear, it is just the same as though they did not exist,'—*de non apparentibus et non existentibus eadem est ratio.* Consequently Mr. Betts or anybody else might appropriate the patent; and in effect it appears, according to the terms of the respective specifications, that the claim of Mr. Betts's patent in 1849 and that of Thomas Dobbs in 1804 are identical to all intents and purposes.

"It happened that in 1862 Mr. Betts obtained a renewal of his patent for five years longer, on the ground that, so far from having been benefited by his patent, he had actually been a loser, owing to the numberless lawsuits in which he had been engaged in defence of his patent-rights. In fact, Mr. Betts estimates his losses in the matter of his capsule at the astounding figure of £30,000, and his law expenses thereanent at £50,000! Think of £80,000 being swamped for the sake of a bottle-cap, which is by no means more indispensable to a bottle than a nightcap is to the human biped!

"Enough, surely, in this short history of Betts's metallic capsule 'to point a moral and adorn a tale.' But 'the best of the joke' is to come. The litigious warfare of its past will have been nothing to that of its future. In the words of a contemporary, Mr. Betts has so triumphantly vindicated his rights, that the whole trade of the kingdom quivers magnetically at the sight of a piece of tin.

"Mr. Betts is determined to enforce his rights in his patent; and woe to all infringers or invaders! A most magnificent crop of Chancery suits is springing up; and we know not how many heads lie aching all night through fear of what may ensue during the present term.

"When Mr. Betts's patent expired in England, it also ran out in France; but French law allows of no renewal for a patent; consequently the tinning of lead is now an open process on the other side of the Channel, and our French neighbours are making millions of these capsules precisely as Mr. Betts makes them. French perfumery and other foreign liquids are imported with metallic capsules; and goods of this kind have been supplied to retail dealers all over the kingdom. Rimmel's toilet-vinegar is a case in point, as also Vichy water; besides which, many articles of English production—such as Price's glycerine—have been capped with *foreign* capsules.

"Now all this is in contravention of Mr. Betts's patent-rights. Any retail dealer who happens to sell a bottle which bears one of these capsules is thereby liable to all the costs and annoyances of a suit in Chancery; and we may observe, it is by no means clear that the *purchaser* is exempt.

"At a recent meeting of chemists and druggists, perfumers, and patent-medicine vendors it was stated that Mr. Betts had filed about five-and-twenty bills in Chancery against as many unfortunate tradesmen who had not the remotest idea of infringing his rights, and who cared no more about his patent capsules than they did about the paper in which their parcels were packed. In one instance it is alleged that a tradesman was asked for one of Rimmel's toilet articles, which he did not happen to have in stock. To oblige his customer he obtained the article, and the result was a notice of a Chancery suit. But indeed the gravity of this capsule-matter to the trade may be inferred from the fact, publicly stated by Mr. Rimmel in his own case, that he had actually offered Mr. Betts £1000 to stay proceedings, providing the exemption were extended to the retail purchasers whom he supplied; but the offer was refused.

"Nobody can blame Mr. Betts for pursuing this course in defending his legal rights, especially if he has swamped £80,000 in the speculation. The market has become inundated with capsules which are an infringement of his patent. It is hard, of course, that retail dealers should suffer; for there is nothing in the nature of the invention which enables a tradesman to know whether the capsule on a bottle is or is not an infringement of the patent. It may be tin, and therefore safe; or it may be lead tinned over, and therefore fraught with ruin, unless made by Mr. Betts, who would need a microscope to know his own, even if he could know it then.

"To sum up, it is impossible to say what other perils await the innocent venders of various other articles, owing to the uncertainty of our patent-law. If there be no infringement of a patent in a particular capsule, there may be in the cork; or if not in the cork, there may be in the material of the label, or in the device which is upon it, or in the method by which that device has been produced, or in the colouring-matter which illuminates the device; or if all these particulars are correct, there may be piracy in the form of the bottle, or in the tinting of it, or in the mode of making it. All this is no exaggeration; and if this is thought to be merely a tradesman's question, we beg to say it is something very much more. Not only are great commercial interests at stake, including our international trade, but even the private consumer is not safe. It has been decided by the Lords Justices that 'it is immaterial whether the use of an article be active or passive.' Any gentleman who has capsuled ale or claret in his cellar must be careful how he exercises his hospitality, for all that appertains to this implacable capsule is redolent of Chancery. If anything could kill the patent laws, it would be found in the practical *reductio ad absurdum* which is now before us.

"In the meantime all must commiserate the luckless tradesmen who run the risk of getting entangled in the meshes of Mr. Betts's Chancery web. We do so heartily; and therefore beg leave to suggest to them a most efficient substitute for the patent metallic capsule; namely, *gelatine*, applied precisely in the same way as sealing-wax or rosin—that is to say, in its melted condition, the top of the bottle being dipped into it. It is obvious that by repeated dippings after cooling any thickness of capsule may be effected.

"We must observe, however, that gelatine is too brittle when used alone; but fortunately science suggests a ready and effectual 'alloy,' acting precisely like the lead of existing metallic capsules. This alloy is *glycerine*—that curious substance of which we may say that it is impossible to decide to what purpose it may *not* be applied. The proportion in which it may be added to the melted gelatine, to give it pliability and toughness, is about one ounce and a half to the pound of the latter, well stirred in.

"Of course any colours may be given to these capsules, either for ornament or to distinguish readily the various liquids or other preparations.

"In hot climates there are voracious insects that attack and eat everything—and of course they are fond of all animal matter—so that the gelatine capsule will be endangered. But here again we are ready with the remedy. Bitter aloes and other repellants may be added to the melted mass to secure this opportune rival from those tropical plagues, whilst it rescues its users from the worst of all plagues—the law, lawyers, and inexorable 'patent-rights.'"

As a fitting appendix to this excellent article, we take the liberty of reprinting from the current number of the *Pharmaceutical Journal* the following letter and opinion:—

"1, East India Avenue, Leadenhall Street, London, E.C.,
"January 17, 1866.

Elias Bremridge, Esq.,
"Secretary Pharmaceutical Society.

"Dear Sir,—In answer to your inquiries respecting the present position of Pharmaceutical Chemists with regard to the sale of articles capped with metallic capsules, we beg to enclose copy of a highly satisfactory opinion written by Mr. Eddis, the learned counsel who settled the answers of seventeen retail chemists defendants to suits by Mr. Betts.

"We concur in Mr. Eddis's opinion, and in accordance with it purpose continuing the defence in the cases of those gentlemen who have instructed; but as Pharmaceutical Chemists in general are, no doubt, more desirous of not being defendants than of being successfully defended, we again convey an expression of opinion that the only course free from the annoyance of suit is neither to keep in stock nor to take into stock any capsuled article.

"We mention that an instance recently came under our notice of a tradesman thinking himself safe where he removed capsules at the time of sale; such was inaccurate,—the receiving of capsuled articles into stock, or keeping articles with capsules on them, may be held to be using capsules.

"We also mention having received positive information that an agent has recently travelled through the West of England with the object of purchasing capsuled articles.

"We are, dear Sir, yours truly,
"Flux and Argles."

COPY OPINION.

"*Re Betts's Suits.*

"I am of opinion that the plaintiff will not succeed in these suits against retail dealers.

"Of course he could not do so if he failed in establishing the validity of his patent, and the facts stated in the answers show that it has been by no means so clearly established, either at law or in equity, as is represented in the bills. But whether and to what extent the specification of Dobbs disclosed an invention which destroyed the novelty of Betts' patent is a question of evidence and detail upon which I have at present very imperfect means of forming a conclusion.

"It appears to me, however, that the nature of the invention or process claimed by the plaintiff will itself prevent a court of equity giving him the aid he asks as against retail dealers. It is not pretended that capsules composed entirely of tin are patented articles, and yet it is, I think, admitted by the plaintiff's specification, and is, I understand, capable of distinct proof, that capsules made according to the process which his patent protects, present externally precisely the same appearance with, and are undistinguishable from, any other tin capsules. It follows, therefore, that the retailer of capsuled articles has no means of ascertaining whether the capsules are patented or not, except by pulling them to pieces and thereby destroying their use, so that an injunction to restrain the infringement is virtually an injunction to restrain the use of capsuled articles altogether.

"I think that a patentee, before he can claim the assistance of a court of equity to protect his patent, is bound to show that the patent is of such a nature as to give the party against whom the injunction is sought the means of knowing when the infringement is committed, and that where the patentee cannot do this, his patent would be held only to extend to the process of manufacture, and not to the completed and undistinguishable product.

"This view is strengthened by the fact that the plaintiff appears not even to have adopted the precaution of invariably affixing to his capsules a distinctive mark, and thus every criterion of distinguishing the plaintiff's article is wanting.

"Under these circumstances, the present suits seek a relief far more extensive than has ever been granted before by a court of equity, and which such a court would, in my opinion, be most unwilling to grant, where it can only protect a patented article by virtually annihilating an important branch of trade which includes many articles not patented at all.

"A. S. Eddis.

"Lincoln's Inn, January 9, 1866."

At a meeting held at 17, Bloomsbury Square, on the 16th ult., it was resolved "That the committee, having heard the opinion of counsel read by Mr. Flux, are satisfied that no compromise should be entered into with Mr. Betts, but that the actions should be defended in court." We may add that a defence fund has been formed to aid those who are preparing to fight the battle in Chancery for themselves and their brethren. Mr. Bremridge, of 17, Bloomsbury Square, who has undertaken to act as honorary secretary to the committee, will receive the names of subscribers to the defence fund, and subscriptions may be sent to him by post-office orders or otherwise.

According to the *Lancet* a child, named Emma Longfellow, aged eight weeks, lately died at Leeds from the effects of a penny-worth of "Indian brandee" administered to her by her mother as a cure for diarrhœa. Mr. Brameld, surgeon, stated that the "Indian brandee" is a most pernicious article, being composed partly of naphtha. The inquest held on the child was adjourned in order to have the "brandee" analysed.

Adulteration of Butter.—Half a pound of fresh butter was lately purchased at a respectable tradesman's shop at Blandford, and after being melted, fully one and a half ounce of a whitish sediment was found at the bottom of the dish. On examination this proved to be principally composed of flour, so that in the one pound of butter rather more that one-fifth part was composed of a substance used for adulteration. The butter in question was the produce of a dairy about a mile from Blandford.—*The Grocer.*

REVIEWS

FRESENIUS'S QUANTITATIVE ANALYSIS.

A System of Instruction in Quantitative Analysis. By Dr. C. Remigius Fresenius. Fourth Edition. Edited by J. Lloyd Bullock, F.C.S., and Arthur Vacher, F.C.S. London: John Churchill and Sons.

This new edition of Fresenius's great work will be noticed at length in these columns when we have finished our careful examination of its contents. At present we will merely reprint Mr. Bullock's preface, which points out the distinctive characters of this edition.

"The present edition of A System of Instruction in Quantitative Analysis—the fourth—corresponds with the fifth in the German. It is a highly gratifying fact that the demand for the work in England keeps pace with the rapid progress of the science itself. Compared with the earlier editions, this is almost a new work. Additions and improved processes, incorporated in almost every section, have extended it by about 100 pages beyond the last edition, it being found impossible to omit much without injury to its completeness. Not fewer than fifty new illustrative woodcuts have been introduced. In an undertaking so onerous as translating and accurately rendering such a multiplicity of chemical processes I have felt the labour and responsibility to be very great, and have, therefore, for the benefit of the English student, as of my own, sought the co-operation of Mr. Vacher, a gentleman admirably qualified for the duty. Mr. Vacher has had the advantage of working for a considerable time in the Wiesbaden Laboratory with Dr. Fresenius, and enjoys his full confidence. The English student will, I trust, equally with the German, have his progress in analytical studies facilitated by the labour of its eminent author."

Books Received.—"Chemistry for Students." By Alexander W. Williamson, F.R.S., etc. (Clarendon Press, Oxford.) "History of Sugar." By William Reed. (Longmans.) "Domestic Medicines" (Hardwicke.)

Correspondence

SMALL TYPE.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—I fully agree with the remarks of your correspondent with regard to the inconvenience of small type, and I go still further than that gentleman; I believe that communications so printed rarely answer the purpose of the writer, simply because they are seldom read.

Persons engaged in active business, when the labour of the day is over, naturally shrink from any additional tax on their attention.

When once in an easy chair, with the two great luxuries, a bright fire, and a good book; that marvel of cheap and excellent printing, the Book Society's last edition of the Pilgrim's Progress, is likely to be preferred to the most brilliant scientific essay which is veiled in a type justly termed microscopic. Contributors should learn to concentrate their effusions, and add a little spirit in order to make them keep.

Yours truly,
Joseph Ince.

26, St. George's Place, Hyde Park Corner, S. W.
January 22, 1866.

THE UNITED SOCIETY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—I am compelled to ask for a small space, on a subject on which I feel deeply, inasmuch as from the beginning I have taken an active part in promoting the interests of "the United Society," and cannot but congratulate the members of the Society on the prospect they now have of soon reaching the goal. I have a deep conviction that we should not so soon and so easily have gained our present position, but for the earnest labours, the indomitable perseverance, and thorough devotedness of Mr. Cyrus Buott. An old man of great experience as well as venerable appearance, he has brought to bear on the question, the hopeful, cheering and buoyant enthusiasm of youth. I have met but with few men who, I think, could have supplied his place. To me, his energy under all circumstances has appeared remarkable; I dare say he has made some mistakes in his eagerness; and I have not in all things seen eye to eye with him. For all that, he has gained my sincerest respect; and I give it as my deliberate conviction that, as a body, we are laid under the deepest obligation to him. To throw him overboard, after the storms of a tempestuous voyage are lulled, just as we are entering our desired haven, would, in my opinion, be ingratitude of the deepest dye. I may be wrong, but I have felt a fear from perusing your last two numbers, lest such a termination of his usefulness is threatened. I do hope our admirable Executive will take a broad and comprehensive view of the whole question, and deal with it and with him in a spirit of equitable justice and kindly sympathy.

That there may be no mistake, I beg to say that I have not been "put up to" writing this by *anyone*.

I remain, yours faithfully,
J. T. Slugg.

Manchester, February 1, 1866.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—Some of the letters which appeared in your last number, display the features that I ventured to predict would be found in the pages of a United Society organ. I imagine the liberty you have given your opponents will effectually silence those who complain that all sides have not the opportunity of expressing their views. One of these communications, coming at this period of the year, reminds me forcibly of a pantomime, for the introductory portion consists of bombastic, grotesque nonsense, and the conclusion of surprising tricks and illusions. It is only astonishing that the talents of this accomplished writer have not been secured for one of the minor theatres. To reply to a genius like Mr. Anderson may appear presumptuous, but, nevertheless, I must reply to his statements both of last month and the month previous, believing that he has been hoaxed by some of the "leaven of unrighteousness," or that he has not had time to master certain facts since his return to the society. Those who have worked with Mr. Buott during the four past years are better able to judge of his capacities than a gentleman who has discovered them at one sitting, and it is as little their desire to deprive him of that which is his due as it is of bestowing credit on him that belongs to others.

Mr. Buott has worked with an enthusiasm such as could scarcely have been expected. He has himself arranged the provincial associations and organized the country districts. Indefatigable in the extreme, he has by his zeal created opposition. At times believing that he understood the wishes of the country trade better than the Executive, he has advocated measures which they could not adopt. But now that the country members have approved the policy of the Executive, I trust that Mr. Buott, whose zeal no one doubts, will see the desirability of carrying out the wishes of the governing body. Those who know the work he has had to perform will excuse the strong feeling he has exhibited, under a belief that he has been opposed personally, but it must be conceded that the members of the committee, who are responsible for the management of the society, ought on no account to allow their authority to be taken from them. It is not to be denied that there are some things requiring alteration. It is quite evident that our list of members needs revision, but the removal of twenty or thirty names would really make the list stronger. Messrs. Horton, Walker, and others can, if they please, take the amount of subscriptions as stated in the balance sheet, and find the exact number who have paid. Although Mr. Dobb held me up as a scarecrow, I have no objection to answer the questions contained in his letter. Mr. Dobb is earnest in his desire to do the society good, and unlike another writer he has no disappointment to avenge. It is a mistake to suppose that the Executive knew anything of the resolution in Mr. Dobb's hands until after he had read it—and it was of this they complained. Mr. Dobb is in fault if he supposes Sheffield was the only place where the journal question had been discussed. In Hull the proposition to establish an official organ was known, and unless I am greatly mistaken it had been well considered in other places, not forgetting "Gath" and "Askalon," where a subscription is being raised to lift the representative of those cities on to the editorial stool. I still think that a resolution to make the subscription ten shillings instead of five would break up the society, and so thought Mr. Hornby the co-representative of Sheffield, and for that reason my amendment was suggested. Mr. Dobb will find my opinion of a paid editor was that he would advocate faction, not fiction. I am still opposed to the addition of a journal, satisfied that it would not be supported nor be an advantage to the society.

I am satisfied that whatever objection the Pharmaceutical Society may take to individuals, they have no unfriendly feelings to the bulk of the United Society, and that the time has now arrived for us to put aside bickerings over personal matters, and to unite for the purpose of urging the Government to introduce a bill, based upon the recommendations of the select committee of last session.

I am, Sir, yours obediently,
JOHN WADE.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—With your permission I shall be glad to say a few words in reply to a portion of Mr. Anderson's letter in last month's CHEMIST AND DRUGGIST reflecting on the gentlemen constituting the Executive Committee of the United Society.

In the first place Mr. Anderson appears desirous that the world should believe he has done great things for the benefit of the United Society, and the trade generally, but in what direction his exertions have been made I am unable to say—probably in "Gath and Ascalon." Having been a member of the Executive from the formation of the Society, I remember he deserted the Committee, and, I believe, the Society, at an early period of its existence. He is now on the Committee, not by the choice of the trade, but by the courtesy of the Executive who were willing to welcome back a lost member. The tone of arrogance which he assumes is therefore not exactly consistent with delicacy of feeling. Whatever his opinion may be of his own abilities and policy I may remind him that the old Executive are not likely to be greatly influenced by a minority of one or two. I do not believe that the country members wish the Executive to abandon their firm but conciliatory policy, for the re-election of the Committee without one dissentient voice proved that it had given general satisfaction. We shall continue in that course which seems to us to be clearly indicated by the wishes of the great majority of the trade, trusting that the result of our labours may be the incorporation of the entire trade with equal rights and representation for all.

Mr. Anderson says that the committee want to rob Mr. Buott of the honour of founding the United Society. Allow me to tell him that Mr. Buott was not the founder of the Society, and that he did not hold office during the first year of its existence, Mr. Buott, jun., being then the secretary. The assertion that the Committee wish to deprive Mr. Buott of the honour of performing his important duties of registrar and secretary with credit and ability is too childish to reply to.

With respect to Mr. Anderson's observation on Mr. Wade and his friends, and the proposed new journal, his statement is altogether a misrepresentation. These are the facts:—When the question of the new journal was under discussion at the general meeting, Mr. D'Aubney stated that himself and two or three others had taken that question into consideration three years before, and as there were no funds in the Society available for starting a journal it was proposed to raise the required cash amongst themselves. After sifting the matter they came to the conclusion that while two trade journals were in existence there was little prospect of success for a third, and the project of starting a new journal was accordingly abandoned.

Mr. Anderson has, with marked grandiloquence, offered £1,000 towards establishing a new journal, but when Mr. Potter asked him what he really meant by his "offer" he said he had not made up his mind. His statement relative to his labours in your journal causes me to feel great doubt whether his memory may not in his offer of £1,000 prove as faulty as it has been in respect to the early numbers of the CHEMIST AND DRUGGIST.

I remain, Sir, yours truly,
1, Churton-street, Pimlico, S.W. H. KING.
February 8, 1866.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Dear Sir,—I do not intend to trouble you with a long letter, but think it should be known by the trade that the proposal to charge half a guinea after July for the certificate was carried by a very large majority of members present. If there are any in the trade who want it, time is by the resolution given them to obtain it at the original price.

Mr. Anderson has forgotten to inform your readers that our secretary made known to the Committee that the old certificates were nearly all disposed of, and that more would shortly be required, also that the lithographers of the original certificates had told him the old stones were destroyed and asked a much higher price for a fresh supply. The present 2s. 6d. each would not in all probability pay for the cost of the new series.

As for the "miserable and paltry piece of paper of no value" that is simply a matter of confidence, a twenty pound Bank of England note only costs fourpence, and so comes very much under the same stigma, but if one of our Committee puts so little value upon our certificate, what can we expect of the trade generally?

I am, dear Sir, yours respectfully,
Shepherdess Walk, Feb., 1866. THOMAS D'AUBNEY.

CHLORODYNE AND STAMP DUTY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—The question noticed in the Pharmaceutical Journal, "Is Chlorodyne subject to a Medicine Stamp?" having attracted my attention as a compounder of the article, I was induced to enquire of the Honourable Commissioners of the Board of Inland Revenue, under what conditions was it rendered liable to the duty, and, if any, what were the exemptions from it, to which I received the following reply.

I am, yours most respectfully,
W. B. Place.

Inland Revenue, Somerset House, London, W.C.
2nd February, 1866.

Sir,—The Board of Inland Revenue have had before them your letter of the 8th ult., requesting to be informed whether your Chlorodyne is subject to the medicine stamp duty.

The Board direct me to enclose herewith for your information an extract from the Act, 52 Geo. III. cap. 150, which imposes the stamp duty on certain preparations in the nature of medicines or medicaments, for the prevention, cure, or relief of any disorder or complaint incident to, or in any wise affecting the human body, wherein the person making them claims to have any occult secret or art for their preparation, or which may by any printed papers or handbills or otherwise as therein set forth, be or have been held out as beneficial for the purposes above mentioned.

It is clearly the design and intention of the handbills of which you have transmitted specimens, to hold out the preparation sold with them as being beneficial for such purposes.

The Board must therefore regard your Chlorodyne as falling within the scope of the enactment in question.

I am to add that the medicine stamp duty applies only to medicines, etc. employed for disorders affecting the human body. I am, Sir, your obedient servant,

Mr. W. B. Place. T. Sargent.

MR. ANDERSON AGAIN.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—Your attack upon me in your January number, warrants some remarks in explanation.

I have gladly permitted my private friends, and a large portion of my business connection, a sight of your last month's Journal, and the result has been a good hearty laugh at your high literary ability, and at the experience you are gaining in achieving a position as an established English institution.

You will remember, sir, that Mr. Joseph Ince once said of you—that you would be ten years in arriving at that position; and if you failed in doing so, that your destiny would be to line trunks. At that time I certainly did not agree with Mr. Ince; but I now do homage to his superior prophetic knowledge, and exclaim—

> "O, Bottom, thou art changed! what do I see on thee?"

Your six years' training in discretion and journalistic knowledge, has, I am afraid, deprived you of true journalistic honesty; and before I conclude this letter, I think I shall make this accusation apparent to your readers: and I shall be content to leave them to judge whether you have not lost—if you ever had?—the discretion you so boastfully speak of, and forgotten your duty as a fair and honourable criticiser of events, in connection with the trade as they occur.

In opposition to the slander contained in your leader upon me, be it understood, that in serving the chemists and druggists of this country, I have no private interests to serve, and therefore your designation of me may be true, that I am "a shining light in the Executive Committee of the United Society." I am proud to tell you, that into that Committee I go with clean hands, and the best interests of the "society" will be diligently watched by me. As the Founder of it, I am cognisant of the principles on which it should be regulated, and stimulated to action as it has been, within the past few weeks, I predict for it an independent, a useful, and a distinguished future. Apart from your support, I feel convinced that the great body of the trade will give me their encouragement, and with that to nerve and guide me, the miserable ridicule you endeavour to hurl against me, will rebound with treble vehemence on your own head.

Your statement that I have "come back to the Society for the purpose of slandering those gentlemen who have been steadily working for it ever since its formation," is as false as it is calumnious, and I challenge you to the proof of it. I have come back to the "Society" for the purpose of arresting it from being made the stalking-horse on which a portion of the Committee are endeavouring to ride into the Council Chamber of Bloomsbury-square, without either yea or nay from its members. To prove this assertion, Mr. Wade stated at the annual meeting (but you omitted it altogether from your report of his speech), that Mr. Proctor had visited him privately, and told him that if he would carry over the "Society" he should be dubbed a knight of the "Council."

In behalf of the United Society, and also in behalf of a considerable proportion of the Pharmaceutic body, I protest against the affairs of either society being decided in the back parlour of a chemist's shop. I have had interviews with a number of members of both Societies, and their declaration is opposed to parlour negotiation, respecting the interests of 6,000 individuals.

If these observations, sir, are regarded as the rule that will regulate my "policy," I contend they are of a character to "do much good," and if they become triumphant, the members of the United Society will not be slow to recognize that triumph, and, in spite of your efforts to the contrary, proclaim me "Dictator."

One remark as to my connection with your Journal: Without ascribing to myself the contribution of my respected friend Mr. Hornby, or those of other non-official contributors, my statement that the whole of No. 4, vol. i., was my work so far as it relates to original editorial matter, is true in substance and in fact.

I remain, yours obediently, T. Sherman Anderson.

Elmdale, Hyde; 30, Duke-street, Manchester-square; and 1, Berkeley-place, Connaught-square.

[The irrepressible Mr. J. Sherman Anderson, of Elmdale, Hyde; 30, Duke-street, Manchester-square; and 1, Berkeley-place, Connaught-square, who now appears in the new character of Founder of the United Society, must not expect us to publish any more of his foolish letters. The proper place for them is the waste-paper basket. We print this new product of a too fertile imagination, merely to prove that we are not afraid to let our readers know Mr. Anderson's opinion of this Journal. We must, however, call attention to his contradictory statements respecting his contributions to our first volume. In December last he declared that No. 2 of that volume was *entirely his work.* We corrected this statement, and last month he admitted that he had not written a line in No. 2, but asserted that No. 4 was *entirely* his work. We corrected this second statement, and now he coolly refers to contributions from Mr. Hornby and others, which appeared in No. 4. To set this matter at rest we will enumerate the articles which Mr. Anderson *did* contribute to that number. Attached to a stamped receipt for what Mr. Anderson calls his "consideration money," is a list, in his own handwriting, of all his contributions. Now, according to this list he wrote an article on the Pardon of Dr. Smethurst, a chapter of a History of Chemistry, a short article on Pepsine, some Notes and Queries, and a paragraph on the Death of Professor George Wilson, forming altogether six pages and a quarter of printed matter. The whole of Mr. Anderson's contributions to this Journal would not fill the literary part of a single number. Had they given satisfaction to our readers Mr. Anderson might be still earning his "consideration money."—Ed. C. & D.]

ASSISTANTS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—Like most others, I generally run over your advertising columns for information or from curiosity, and it has often occurred to me, that the practice of asking the height of a young man requiring a situation as an assistant, is particularly snobbish. The men we employ as assistants are quite as well educated as ourselves, and they must be disgusted with advertisements which refer to the footman's great qualification. Advertisers might just as reasonably insist upon knowing the weight of each applicant or the exact number of inches he measures round the body.

In these days, when we wish to raise our occupation in the eyes of the public (and, I regret to say, that owing to the contemptible practices of many in the trade, it is now thought little better than that of petty hucksters), we must treat our assistants with more consideration, and show a little more courtesy and gentlemanly feeling in our dealings with them.

I was an assistant myself for a few years with Messrs. Bell and Co., of Oxford-street, but I never heard of the principals of that firm making inquiries respecting a man's height. They probably had discovered that an assistant's height bore no relative proportion to his ability to dispense medicine, and that gentlemanly bearing and courtesy were not inconsistent with small stature. Parenthetically, I may remark, that ladies like little men quite as well as big ones, and that a man whom God has made of small stature, may have a very well stored head-piece. It is a degrading inquiry by implication. The system apparent at the house to which I have alluded above, and which I thoroughly endorse, was this:—treat every educated man as a *gentleman*, not a paid *servant;* if anyone is unable to appreciate such treatment, let him suit his disposition elsewhere. There is nothing lost by kind and considerate treatment of assistants.

There are some other subjects connected with our trade upon which I could touch, only I am afraid of encroaching too much on your space.

With every respect, Mr. Editor,
I am, your obedient Servant,
ARTHUR REMINGTON,
English Dispensing Establishment, Jersey.

NOTES AND QUERIES

ACID STAINS.—RESTORATION OF VIOLET.

WE have received the following communication from a correspondent who takes a great interest in all matters pertaining to domestic economy:—

Sir,—I send you the following particulars thinking they may be interesting and useful to your readers.

Being anxious to discover some means by which the colour could be restored that had been extracted from a violet silk dress, by acid juice having been accidentally thrown upon it, I applied to more than one chemist and druggist, thinking to be informed of some chemical agent which would restore violet, as spirit of hartshorn, it is well known, will restore black. Not being able to obtain any information on the subject, I thought of trying some experiments for myself, and the first proving successful may be worth recording.

Having recently superintended the "iodine process" for annihilating a blot of marking ink from linen, it occurred to me to try the same process upon the violet silk. The plan I adopted is as follows, and will serve as a recipe:—*Brush the portion of fabric with tincture of iodine, then, after a few seconds, well saturate the spot with a solution of hyposulphite of soda, and dry gradually;* the colour is perfectly restored, and I consider my experiment highly satisfactory. I should state that it was knowing something of the chemical composition and properties of iodine induced me, an amateur, to make the experiment which I have described.

Yours, etc., * * *

NEW DRUG—SOLANUM PANICULATUM.

We learn from the *Lancet* that a new medicinal substance has lately been brought under the notice of the medical men of France by M. Stanislas Martin. It is known by the name of *jurubeba* in Brazil, and is the plant called by botanists *Solanum paniculatum*. In South America the plant is used in the form of emplastrum, syrup, wine, tincture, and aqueous and alcoholic extract. It is chiefly employed in affections of the liver and spleen, in vesical catarrh, anæmia, chlorosis, and difficult menstruation. According to the testimony of several observers, this new drug promises to be the most powerful deobstruant yet met with. The jurubeba is sold commercially in the state of leaves, fruit, and roots. The latter vary in length from ten to fifty centimetres. They are covered with minute rootlets; their texture is hard and fibrous, the fibres being serrated. The stems of the plant are long and slender, and are studded with sharp-pointed prickles. The leaves attached to them have a fine green colour; they are without odour, and are nearly tasteless.

TINCTURA ACTÆÆ RACEMOSÆ.

Mr. HENRY R. BAKER, of Southsea, writes:—Having frequent occasion to dispense prescriptions containing this tincture, and as I have never seen a formula for its preparation in print I am induced to bring before the notice of your readers the formula used by many of the West End houses. ℞ Rad. Actææ Racemosæ ℥v., Aq. Destill. ℥xx., Sp. Vini ℥xx. The root to be reduced to a moderately fine powder, and digested with the spirit and water for four days, then transferred to a percolator and allowed to percolate. The mass is then to be washed with equal parts of spirit and water to accurately measure two pints. The tincture is much recommended in rheumatic complaints. Dose from ʒss. to ʒiij., combined with iodide of potassium and bicarbonate of soda or potash.

MR. MAURICE WORMS'S TREATMENT OF THE RINDERPEST.

The treatment by which Mr. Worms is said to have cured 24 animals on Lord Leigh's estate, at Stoneleigh, may be thus briefly described. Directly the animal's breath becomes tainted, the medicine described below, should be given to it, and should only be repeated once in 24 hours in very bad cases. Should the animal's bowels be confined after 12 hours, and the stomach swollen, administer to a full-grown animal half a pound, to a calf a quarter of fresh unsalted lard, made into boluses. If the mouth be sore, wash the gums with a pulp made of the rind of Seville oranges, boiled. Diet.—Two hours after the medicine has been administered, the animal should be fed with rice gruel, and during two days, three times a day, with nothing else than rice gruel and a little sweet hay. The animals must be kept warm, and the stall thoroughly disinfected and ventilated.

The Medicine.—Take a pound of small red pickling onions and a pound of garlic, peel them, put them together into a mortar and reduce them to a fine pulp, to this pulp add a pound of ground ginger, and mix thoroughly. Take three-quarters of a pound of assafœtida, pour sufficient water over it to cover it, then allow it to boil till no sediment remains, carefully removing all hard portions; pour this decoction of assafœtida over the pulp of onions, garlic, and ginger, and stir the whole mass thoroughly; add to this eight quarts of rice water and allow it to cool. This is sufficient for 14 full-grown animals.

Dose.—To a full-grown animal, 1⅛ of a pint; to a heifer, seven-eighths of a pint; and to a calf, five-eighths of a pint.

TRADE REPORT.

DURING the past month business in Chemicals has been, with one or two exceptions, very dull, the high price of money operating against any extensive purchases, speculators holding off, and the trade and exporters buying only for actual orders. In Tartaric Acid a moderate business has been done on the spot at 1s. 5¾d. to 1s. 6d., and for forward delivery at 1s. 6d. to 1s. 6½d., according to make. Citric Acid continues quiet at 2s. to 2s. 0½d., and a small lot at 2s. 0¾d. to 2s. 1d. Moderate sales only have been made in Oxalic at 12½d. to 13d., and Sal Acetos at 1s. 2½d. to 1s. 3d. A good business has been done in Chlorate of Potass at 1s. 2d., now makers have advanced their prices to 1s. 3d. Bichromate is dull at 6d., and Prussiate of Potass at 1s. 1¼d. to 1s. 1½d. Small sales in Quinine made at 5s. 1d. to 5s. 2d. for French, and 5s. 6d. for English. A large business done in Soda Ash at 2⅝d. forward, and 2¾d. on the spot, ex ship. Crystals are steady at 115s., ex ship. Cream Tartar is dull at 102s. 6d. to 105s. Sulphate of Copper has declined to 30s., and scarcely any business doing. Alum is firm and scarce at £7 5s. in casks, and £7 10s. in barrels. Small sales made in Bleaching Powder at 14s. Roll Brimstone is steady at 10s. 9d. to 11s., and Flour of Brimstone at 13s. Sal Ammoniac is steady at 35s. 6d. and 37s. 6d., according to quality. Bicarbonate of Soda is quiet at 18s., and Caustic at 18s. 6d. to 19s. Muriate of Potass remains dull. Refined Saltpetre is rather easier, last sales made at 28s. to 28s. 6d.

cash. Ashes are lower, and dull of sale. Refined nphor is firm at 1s. 7d. Petroleum is dull of salo, and es gradually falling, but sales made at 2s. 4d. to 2s. 5d. Crude here, and prices quite nominal. Linseed Gil is er, spot and Hull 39s. to 39s. 3d. Turpentine is lower, nch 44s. 6d to 45s. No American here.

he sales of Drugs have been small, and they have dually gone off at easy prices, where parcels have been ssed. A large parcel of Cape Aloes sold at a further uction of 1s. to 1s. 6d., good quality selling at 41s. to 6d. Barbadoes and East Indian are without change. ns remain the same, except Kowrie, the common kinds g 2s. to 3s. lower, and Sandrac selling readily at 95s. to s. 6d. for good and fine. Tonquin, French, sold at 18s. common, up to 38s. 6d. for fine. A large parcel of Turkey um was offered, and about half sold at 13s. 6d. to 14s. 3d. s are rather lower, and a better supply. Castor Oil has steadily, and some of the common kinds brought rather e money. An extensive business has been done in Oil iseed, both on the spot and for arrival, the former closing s. 4½d., and the latter at 9s. 9d. to 10s. Oil Carui is dearer, sales made at 8s. 3d. Cod Liver Oil sold s. 6d. to 7s. Bees Wax is rather dearer. Safflower is in l request, and about 10s. to 15s. dearer. Jalap is held ate prices. Turmeric is rather dearer. Gambia rather r. Cutch is 1s. to 2s. lower. Roll Annatto is 2d. per, a parcel indirect import selling at 1s. 6d. Bark has steadily without change. Shellac is rather cheaper. ngal Root is rather easier. A few parcels of China barb brought 6d. to 1s. more money. Citronelle Oil is dearer. In other goods there is no change.

PRICE CURRENT.

ese quotations are the latest for ACTUAL SALES *in Mincing . It will be necessary for our retail subscribers to bear in that they cannot, as a rule, purchase at the prices quoted, nuch as these are the* CASH PRICES IN BULK. *They will, how- be able to form a tolerably correct idea of what they ought to pay.*

	1865.		1865.	1864.		1864.
	s. d.		s. d.	s. d.		s. d.
OL, Cape, per cwt.	75 0	..	95 0	75 0	..	92 6
nch	58 0	..	83 0	60 0	..	85 0
orto, red	45 0	..	46 0	45 0	..	47 0
ily	72 0	..	72 6	72 6	..	75 0
oles, white	68 0	..	75 0	60 0	..	76 6
rence, white	90 0	..	95 0	85 0	..	90 0
red	80 0	..	85 0	80 0	..	85 0
ogna, white	90 0	..	95 0	90 0	..	95 0
DWROOT..(duty 4½ per cwt.)						
muda..per lb.	1 3	..	1 6	1 6	..	1 8
Vincent	0 2½	..	0 6	0 3½	..	0 6
aica	0 3	..	0 5	0 3¼	..	0 7¼
er West India	0 2¼	..	0 3½	0 3	..	0 4½
zil	0 2¼	..	0 3	0 2½	..	0 3
t India	0 2¼	..	0 3½	0 3	..	0 5
al	0 4	..	0 7	0 4¾	..	0 8
ra Leone	0 3½	..	0 4	0 4½	..	0 5
ES....per cwt.						
, Canada, 1st sort	36 0	..	0 0	30 6	..	31 0
rl, ditto, 1st sort	37 0	..	0 0	33 0	..	0 0
ISTONE,						
gh....per ton	165 0	..	170 0	160 0	..	0 0
....	215 0	..	220 0	195 0	..	210 0
....	260 0	..	265 0	240 0	..	250 0
IICALS,						
l—Acetic, per lb.	0 4	..	0 4½	0 4	..	0 0
Citric	2 0½	..	2 1	1 9	..	0 0
Nitric	0 4	..	0 0	0 5	..	0 0
Oxalic	1 0¼	..	1 1	0 9½	..	0 9½
Sulphuric	0 0¾	..	0 1	0 0¾	..	0 1
Tartaric crystal	1 5¾	..	1 6	1 6	..	0 0
powdered	1 6½	..	0 0	1 6¼	..	0 0
n ....per ton	145 0	..	150 0	125 0	..	130 0
owder	165 0	..	170 0	145 0	..	150 0
onia, Carbonate, per lb.	0 5¼	..	0 5½	0 5	..	0 5¼
Sulphate ......per ton	250 0	..	270 0	265 0	..	235 0
mony, ore	0 0	..	180 0	160 0	..	180 0
crude ......per cwt	24 0	..	25 0	26 0	..	0 0
regulus	34 0	..	0 0	35 0	..	36 0
French star	34 6	..	35 0	36 0	..	0 0
nic, lump	12 0	..	12 6	12 0	..	12 6
powder	5 9	..	6 0	6 0	..	6 6
ching powder	14 0	..	0 0	11 6	..	0 0
x, East India refined..	0 0	..	0 0	0 0	..	0 0
British	54 0	..	0 0	56 0	..	0 0
mel ....per lb.	2 8	..	2 8	2 8	..	2 9
phor, refined	1 7	..	0 0	0 0	..	1 3
eras, green ....per ton	52 6	..	60 0	52 6	..	55 0
osive Sublimate, per lb.	2 2	..	0 0	2 3	..	0 0
n Emerald	0 0	..	0 0	0 0	..	0 0
Brunswick.... per cwt.	0 0	..	0 0	0 0	..	0 0
CHEMICALS.						
Iodine, dry .... per oz.	0 7⅝	..	0 7⅞	0 6	..	0 6¼
Magnesia, Carbon per cwt...	42 6	..	45 0	42 6	..	45 0
Calcined . per lb.	1 6	..	1 8	1 6	..	1 8
Minium, red ...... per cwt.	22 0	..	22 6	21 6	..	24 6
orange	32 6	..	0 0	32 6	..	33 0
Potash, Bichromate per lb.	0 6	..	0 0	0 6	..	0 6¼
Chlorate	1 2	..	0 0	0 0	..	1 1
Hydriodate..per oz.	0 7	..	0 7½	0 6	..	0 6½
Prussiate....per lb.	1 1¼	..	1 1½	0 11½	..	0 11¾
red	1 9½	..	1 10	1 9	..	1 9½
Precipitate, red .... per lb.	2 8	..	2 9	2 9	..	0 0
white	2 8	..	2 9	2 9	..	0 0
Prussian Blue	1 0	..	1 10	1 0	..	1 10
Rose Pink ....per cwt.	29 0	..	0 0	29 0	..	0 0
Sal-Acetos ....per lb.	1 2½	..	0 0	0 11½	..	0 0
Sal-Ammoniac ....per cwt.						
British	35 6	..	37 6	36 0	..	38 6
Salts, Epsom	8 6	..	0 0	9 0	..	0 6
Glauber	4 6	..	6 0	3 6	..	5 6
Soda, Ash..........per deg.	0 2⅝	..	0 2¾	0 1⅞	..	0 2¼
Bicarbonate..per cwt.	1s 6	..	19 0	11 9	..	11 6
Crystals ......per ton	115 0	..	0 0	0 0	..	90 0
Sugar Lead, white per cwt.	38 0	..	39 0	37 6	..	38 0
brown	26 6	..	27 6	27 6	..	28 6
Sulphate Quinine....per oz.						
British, in bottle ..	5 6	..	0 0	5 6	..	5 9
Foreign	5 1	..	5 2	5 5	..	5 6
Sulphate Zinc......per cwt.	14 6	..	15 0	14 6	..	15 0
Verdigris............per lb.	0 11	..	1 0	0 11	..	1 0
Vermilion, English	2 11	..	3 3	3 0	..	3 4
China	2 10	..	3 0	2 6	..	2 8
Vitriol, blue or Rom. per ct.	30 0	..	31 0	27 6	..	28 6
COCHINEAL, per lb.						
Honduras, black	3 4	..	5 0	3 3	..	4 11
silver	2 2	..	3 6	2 8	..	3 4
Mexican, black	3 2	..	3 7	3 2	..	3 6
silver	2 10	..	3 2	2 10	..	3 0
Lima	3 0	..	3 2	0 0	..	0 0
Teneriffe, black	3 5	..	4 1	3 1	..	3 3
silver	3 2	..	3 4	3 1	..	3 3
DRUGS,						
Aloes, Hepatic ....per cwt.	100 0	..	170 0	100 0	..	160 0
Socotrine	140 0	..	290 0	170 0	..	300 0
Cape, good	41 0	..	44 0	45 0	..	49 0
inferior	30 0	..	40 0	30 0	..	42 0
Barbadoes	70 0	..	280 0	60 0	..	300 0
Ambergris, grey ....per oz.	24 0	..	28 0	19 0	..	22 0
Angelica Root ....per cwt.	20 0	..	35 0	20 0	..	35 0
Aniseed, China star	100 0	..	200 0	120 0	..	0 0
German, &c.	26 0	..	40 0	24 0	..	40 0
Balsam, Canada ....per lb.	1 4	..	1 5	0 10	..	0 0
Capivi	1 10	..	2 0	1 6	..	1 7
Peru	4 9	..	4 10	4 8	..	4 9
Tolu	2 11	..	3 4	3 6	..	3 7
Bark, Cascarilla....per cwt.	21 0	..	30 0	25 0	..	36 0
Peru, crown & grey per lb.	1 3	..	2 2	0 9	..	2 3
Calisaya, flat	2 10	..	3 0	3 0	..	3 6
quill	2 3	..	2 9	2 9	..	3 3
Carthagena	0 10	..	2 4	1 1	..	1 10
Pitayo	1 0	..	2 4	1 5	..	2 3
Red	2 9	..	13 6	3 0	..	11 0
Bay Berries........per cwt.	0 0	..	0 0	0 0	..	0 0
Bucca Leaves........per lb.	0 7	..	0 11½	0 4	..	0 10
Camomile Flowers	20 0	..	100 0	15 0	..	70 0
Camphor, China	115 0	..	122 6	90 0	..	0 0
Canella alba	0 0	..	0 0	23 0	..	33 0
Cantharides ....per lb.	2 4	..	2 5	2 5	..	2 6
Cardamoms, Malabar, good	6 0	..	6 3	5 4	..	5 9
inferior	4 6	..	5 10	4 0	..	5 3
Madras	2 9	..	5 5	2 0	..	3 9
Ceylon	3 6	..	4 0	5 0	..	5 5
Cassia Fistula......per cwt.	15 0	..	41 0	16 0	..	25 0
Castor Oil, 1st pale ..per lb.	0 6¼	..	0 7¼	0 6½	..	0 7
2nd	0 5¼	..	0 6	0 4¾	..	0 6
inferior and dark	0 4¾	..	0 5	0 4¼	..	0 4½
Bombay, in casks	0 4½	..	0 4¾	0 4¼	..	0 4¾
Castorum	1 0	..	20 0	1 0	..	20 0
China Root ....per cwt.	20 0	..	25 0	16 0	..	19 0
Cocculus Indicus	35 0	..	36 0	22 0	..	24 0
Cod Liver Oil ......per gal.	3 6	..	7 0	6 0	..	16 0
Colocynth, apple ....per lb.	0 7½	..	1 1	0 7	..	1 1
Colombo Root ....per cwt.	280 0	..	480 0	70 0	..	130 0
Cream Tartar						
French	102 6	..	105 0	97 6	..	102 6
Venetian	102 6	..	0 0	102 6	..	105 0
grey	90 0	..	92 6	90 0	..	92 6
brown	90 0	..	92 6	90 0	..	95 0
Croton Seed	500 0	..	520 0	90 0	..	95 0
Cubebs	87 0	..	87 6	77 6	..	80 0
Cummin Seed	18 0	..	21 0	18 0	..	26 0
Dragon's blood reed	200 0	..	340 0	200 0	..	300 0
lump	85 0	..	230 0	90 0	..	260 0
Galangal Root	13 6	..	14 6	15 0	..	17 0
Gentian Root	16 0	..	20 0	22 0	..	23 0
Guinea Grains .... per cwt.	55 0	..	60 0	58 0	..	60 0
Honey, Narbonne	40 0	..	80 0	40 0	..	80 0
Cuba	25 0	..	33 0	23 0	..	35 0
Jamaica	23 0	..	61 0	23 0	..	60 0
Ipecacuanha ....per lb.	9 10	..	10 0	12 0	..	0 0
Isinglass, Brazil	2 2	..	5 4	1 9	..	4 7
East India	1 6	..	4 4	0 10	..	4 4
West India	3 9	..	4 2	3 0	..	3 6
Russian	7 6	..	10 0	10 6	..	12 0
Jalap	1 0	..	5 3	1 0	..	6 3

DRUGS—*continued.*	1865.	1865.	1864.	1864.
Juniper Berries ....per cwt.	s. d.	s. d.	s. d.	s. d.
German and French	8 6	10 0	7 0	0 0
Italian	9 6	10 6	0 0	10 0
Lemon Juice ......per deg.	0 0¾	0 0¾	0 0¾	0 0¾
Liquorice ....per cwt.				
Spanish	75 0	80 0	75 0	80 0
Italian	55 0	75 0	55 0	70 0
Manna, flaky	2 0	2 6	2 6	2 9
small	1 2	1 8	1 2	1 4
Musk ....per oz.	17 0	40 0	20 0	32 0
Nux Vomica	10 0	17 0	12 0	14 6
Opium, Turkey	13 6	14 0	15 0	16 0
Egyptian	6 0	7 0	0 0	0 0
Orris Root ......per cwt.	28 0	30 0	30 0	31 0
Pink Root .... per lb.	3 0	0 0	2 9	3 0
Quassia (bitter wood) per ton	100 0	0 0	70 0	0 0
Rhatany Root ......per lb.	0 6	1 2	0 9	1 6
Rhubarb, China, round	3 0	11 0	2 6	7 0
flat	3 0	10 0	2 8	6 9
Dutch, trimmed	15 0	16 0	9 0	10 0
Russian	15 0	16 0	11 0	13 0
Saffron, Spanish	43 0	44 0	32 0	34 0
Salep.............. per cwt.	140 0	152 6	130 0	0 0
Sarsaparilla, Lima	1 0	1 4	1 0	1 5
Para	0 11	1 1	0 11	1 2
Honduras	0 9	1 7	0 11	1 6
Jamaica	1 1	2 3	1 6	2 3
Sassafras ....per cwt.	10 6	11 6	15 0	16 0
Scammony, virgin ..per lb.	30 0	44 0	30 0	35 0
second	14 0	23 0	12 0	23 0
Seneka Root	3 9	4 0	3 0	3 4
Senna, Calcutta	0 0	0 0	0 0	0 0
Bombay	0 4	0 5½	0 3½	0 5½
Tinnevelly	0 4	0 11	0 4½	1 4
Alexandria	0 3	0 9	0 3½	0 8
Snake Root	3 6	0 0	4 3	0 0
Spermaceti, refined	1 0	1 2	0 10	1 2
Squills	0 1½	0 3½	0 0¾	0 2
Tamarinds, E. India, per cwt.	15 0	17 0	15 0	17 0½
West India	10 0	20 0	12 0	23 0
Terra Japonica—				
Gambier ....per cwt.	21 0	28 6	22 6	28 0
Cutch	26 6	23 0	22 6	24 6
Valerian Root, English	20 0	29 0	20 0	30 0
Vanilla, Mexican......per lb.	10 0	25 0	26 0	38 0
Wormseed..........per cwt.	10 0	0 0	11 0	12 0
GUM—Ammoniac, drop, per cwt.	120 0	170 0	95 0	120 0
lump	40 0	85 0	38 0	85 0
Animi, fine pale	210 0	220 0	200 0	210 0
bold amber	190 0	220 0	190 0	210 0
medium	160 0	180 0	160 0	180 0
small and dark	100 0	150 0	100 0	155 0
ordinary dark	40 0	95 0	40 0	95 0
Arabic, E. I., fine pale picked	76 0	85 0	90 0	95 0
unsorted, good to fine	62 0	75 0	64 0	76 0
red and mixed	46 0	60 0	50 0	60 0
siftings	25 0	40 0	25 0	40 0
Turkey, picked, good to fine	170 0	210 0	120 0	160 0
second and inferior.	95 0	160 0	65 0	110 0
in sorts	46 0	70 0	32 0	50 0
Gedda	46 0	50 0	36 0	39 0
Barbary, white	80 0	95 0	72 0	75 0
brown	58 0	67 0	47 0	50 0
Australian.	37 0	44 0	33 0	34 0
Assafœtida, fair to good	25 0	50 0	30 0	75 0
Benjamin, 1st quality	340 0	000 0	350 0	850 0
2nd ,,	240 0	300 0	280 0	300 0
3rd ,,	50 0	240 0	50 0	240 0
Copal, Angola, red	66 0	75 0	72 0	80 0
pale	70 0	75 0	75 0	85 0
Benguela	60 0	90 0	60 0	90 0
Sierra Leone .. per lb.	0 3	0 11	0 4	0 11
Manilla......per cwt.	25 0	42 0	24 0	40 0
Dammar, pale ......per cwt.	50 0	60 0	34 0	47 6
Galbanum	160 0	170 0	160 0	170 0
Gamboge, picked, pipe	250 0	300 0	250 0	300 0
in sorts	140 0	240 0	140 0	240 0
Guaiacum ....per lb,	0 9	1 5	1 0	2 0
Kino .... per cwt.	360 0	400 0	300 0	500 0
Kowrie	25 0	75 0	23 0	55 0
Mastic, picked ...... per lb.	8 6	0 0	0 0	6 9
Myrrh, gd. and fine, per cwt.	130 0	160 0	130 0	180 0
sorts	70 0	110 0	70 0	130 0
Olibanum, pale drop	63 0	76 0	65 0	70 0
amber and yellow	55 0	67 0	65 0	70 0
mixed and dark..	20 0	48 0	17 0	44 0
Senegal	77 6	85 0	60 0	90 0
Sandrac	90 0	110 0	75 0	95 0
Tragacanth, leaf	200 0	280 0	180 0	260 0
in sorts	70 0	180 0	80 0	160 0
OILS..................per tun	£ s.	£ s.	£ s.	£ s.
Seal	44 0	50 0	40 0	48 0
Sperm, body	118 0	120 0	80 0	0 0
Cod	50 0	0 0	52 0	0 0
Whale, Greenland	0 0	0 0	0 0	0 0
South Sea, pale	46 0	50 0	43 0	44 10
East India Fish	36 0	37 0	30 0	31 0
Olive, Galipoli ...... per ton	56 0	57 0	56 0	0 0
	s. d.	s. d.	s. d.	s. d.
Florence, half-chest ..	0 0	0 0	20 0	21 0
Cocoanut, Cochin .. per cwt.	51 0	52 0	39 0	39 6
Ceylon	46 6	47 0	33 0	39 0
Sydney	42 0	47 0	30 0	37 6
Ground Nut and Gin.				
Bombay	48 0	0 0	38 0	0 0

OILS—*continued.*	1865.	1865.	1864.
	s. d.	s. d.	s. d.
Madras ....per cwt.	50 0	52 0	36 0
Palm, fine	41 0	41 0	36 0
Linseed	39 0	39 6	32 0
Rapeseed, English, pale	56 0	0 0	43 0
brown	51 6	0 0	41 0
Foreign pale	56 0	57 0	44 0
brown	53 0	0 0	41 0
Lard	78 0	0 0	60 0
Tallow	38 0	0 0	20 0
Rock Crude .... per ton	£23 0	0 0	£17 0
OILS, Essential—			
Almond, essential ....per lb.	26 0	0 0	0 0
expressed	0 10½	0 0	1 0½
Aniseed	9 5	0 0	6 2
Bay ....per cwt.	0 0	0 0	110 0
Bergamot ....per lb.	10 0	15 0	7 0
Cajeputa, (in bond) ..per oz.	0 3	0 3½	0 2½
Caraway ....per lb.	5 0	6 6	5 0
Cassia	8 0	0 0	8 1
Cinnamon (in bond) ..per oz.	1 0	3 6	1 0
Cinnamon Leaf	0 5	0 8	0 2
Citronel	0 3¾	0 4½	0 4¾
Clove	0 6	0 0	0 2
Croton	1 0	1 8	0 9
Juniper..............per lb.	2 9	2 6	1 10
Lavender	1 9	2 10	2 6
Lemon	6 3	9 0	5 6
Lemongrass..........per oz.	1 3	1 6	0 10½
Mace, ex.	0 1	0 2½	0 2
Neroli	5 0	5 9	5 0
Nutmeg	0 1½	0 3½	0 1
Orange ....per lb.	5 0	6 0	5 6
Otto of Roses ....per oz.	18 0	22 0	16 0
Peppermint, per lb.			
American	15 0	15 3	13 3
English	30 0	33 0	34 0
Rhodium ....per oz.	0 0	0 0	0 0
Rosemary ....per lb.	2 0	2 3	0 0
Sassafras	3 3	3 6	2 9
Spearmint	5 0	8 0	5 0
Spike	0 0	0 0	0 0
Thyme	1 0	2 0	1 9
PITCH, British ......per cwt.	12 0	0 0	12 0
Swedish	0 0	0 0	0 0
SALTPETRE, per cwt.			
English, 6 per cent. or under	24 0	25 0	30 6
over 6 per cent.	22 6	23 9	29 6
Madras	21 6	23 0	28 0
Bombay	18 0	22 0	25 0
British-refined	28 0	28 6	34 0
Nitrate of soda	13 0	13 6	14 0
SEED, Canary ....per qr.	52 0	56 0	40 0
Caraway, English .. per cwt.	32 0	34 0	0 0
German, &c.	0 0	0 0	0 0
Coriander	20 0	22 0	0 0
East India	0 0	0 0	0 0
Hemp	44 0	46 0	0 0
Linseed, Black Sea	65 0	0 0	57 0
Calcutta	64 0	66 0	57 6
Bombay	67 6	0 0	59 6
Egyptian	60 0	0 0	56 0
Mustard, brown....per bshl.	0 0	0 0	0 0
white	11 0	12 0	0 0
Poppy, East India....per qr.	59 0	0 0	51 0
Rape, English	0 0	0 0	0 0
Danube	70 0	71 0	0 0
Calcutta fine	67 0	0 0	54 0
Bombay	72 6	0 0	64 0
Teel, Sesmy or Gingy	60 0	69 0	58 0
Cotton ....per ton	145 0	160 0	130 0
Ground Nut Kernels per ton	360 0	0 0	270 0
SOAP, London yel. .. per cwt.	28 0	32 0	20 0
mottled	32 0	36 0	24 0
curd	46 0	50 0	46 0
Castile	40 0	42 0	40 0
Marseilles	40 0	42 0	40 0
Soy, China ....per gal.	3 3	0 0	3 3
Japan	0 0	0 0	1 5
Sponge, Turkey, fine picked	14 0	18 0	19 0
fair to good	6 0	12 0	7 0
ordinary ..	1 6	4 0	2 6
Bahama ..	0 8	2 6	0 4
TURPENTINE, Rough, per ct.	0 0	0 0	0 0
Spirits, French	44 6	45 0	69 0
American, in casks	0 0	0 0	0 0
WAX, Bees, English	180 0	185 0	170 0
German	195 0	200 0	162 6
American	185 0	190 0	175 0
white fine	0 0	0 0	8 0
Jamaica	190 0	192 6	180 0
Gambia	180 0	195 0	180 0
Mogadore	140 0	170 0	125 0
East India	160 0	190 0	150 0
ditto, bleached	190 0	220 0	200 0
vegetable, Japan	66 8	88 6	65 0
WOOD, Dye, per ton			
Fustic, Cuba	150 0	170 0	165 0
Jamaica	100 0	120 0	130 0
Savanilla	120 0	130 0	0 0
Zante	0 0	0 0	0 0
Logwood, Campeachy	165 0	180 0	180 0
Honduras	100 0	105 0	100 0
St. Domingo	85 0	90 0	80 0
Jamaica	90 0	92	75 0